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THESIS

THE MARITIME SECURITY OF THE BALTIC APPROACHES:

NATO AND THE WARSAW PACT

by

Jan Cody Gaudio

June 1983

Thesis Advisor: D. S. Yost

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This research provides an analysis of the current maritime security threat to the Baltic Approaches posed by Warsaw Pact military expansion. Nordic regional security is discussed in order to determine the importance of the region from both the Warsaw Pact and NATO perspective. The role of Finnish and Swedish neutrality as well as the roles of NATO and Warsaw Pact allies are examined in terms of capability, resolve and national interests. Denmark, as the geographic key to the Baltic, is discussed in particular

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The Maritime Security of the Baltic Approaches: NATO And the Warsaw Pact

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment of the
requirements for the degree of

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I. INTRODUCTION

> "Like a large red tongue, the zone of Soviet influence extends far beyond Berlin into the very center of Europe. If it ever greedily licks out farther, all nations of Western Europe will be threatened; ... the stronger the flanks are made in the north and in the south, and the more care is taken that the Baltic becomes a NATO sea as soon as possible, the safer will all of the democracies be from Soviet influence."[1]
>
> Commander T. Gerhard Bidlingmaier
> Federal German Navy
> September 1958

This thesis examines three basic questions concerning the maritime security of the Baltic Approaches. First, in the event of a major East-West war, how important to both NATO and the WTO (Warsaw Treaty Organization) would control of the Baltic Approaches be? Second, does NATO presently possess the capability and political resolve to successfully defend the approaches from a Warsaw Pact attack? Third, what consequences would NATO face should the approaches and the Danish peninsula fall under Warsaw Pact control?

Part One of this thesis concerns Soviet interest and influence in the Baltic. The military power that has ceaselessly increased since the late sixties is discussed in political and ideological terms as well as in terms of

operational considerations. A Soviet blend of ideology, political persuasion and Realpolitik has produced a foreign policy aimed directly at the Scandinavian countries and designed to weaken NATO cohesion in the north.

After Soviet Baltic security interests, the contributions of the USSR's Baltic allies in Poland and East Germany, as they pertain to the security of the Baltic Approaches, are considered. Current Warsaw Pact naval trends and exercises are discussed as well as the role played by the neutral Baltic nations of Sweden and Finland.

Part Two examines NATO's position in the Baltic. Denmark, as the gate keeper, is addressed in terms of capability and political resolve. Considered by some to be a weak link in the military alliance because of its failure to participate in its own defense, on a level satisfactory to other NATO partners, this country occupies a strategic position for Baltic and North Sea security. It is the bridge that connects central Europe with its northern allies and, at the same time, the dam which can hold back a Warsaw pact flood from spilling over into the North Sea.

The Federal Republic of Germany's contributions are then assessed. The German naval role in supporting the Danish fleet is vital to control of the straits as well as to the security of the Central Front's northern flank.

After establishing the players and the tools available to them, plausible maritime scenarios are analyzed. Much can be learned from the evolution of Warsaw Pact exercises in the Baltic. Each year some of the largest naval amphibious exercises in the world take place in the Baltic and connecting waters of the Northern Flank. It appears all too clear that these exercises are merely a simulation of a Warsaw Pact advance against the Danish and German coasts. The threat confronting both these nations is real and formidable in conventional and nuclear terms.

This thesis thus brings together evidence about the changing strategic situation in the Baltic and concludes with a brief discussion of possible options for NATO and its Baltic allies.

A. BALTIC CONSTANTS

Any introduction to the problems of maritime security of the Baltic Approaches must certainly consider the "constants" as well as the "variables" that effect that security. Constants are here defined as factors which man has little or no control over and yet must contend with daily. Geography is therefore one of the first things that military planners consider when evaluating any region that is a potential conflict area.

The geographic position of any sea in respect to its latitude generally determines the type of climate prevailing

and the length of its days and nights. The Baltic lies between latitude 54°N and 66°N. In January, nights range from about 14 1/2 hours at the former latitude to about 18 hours at the latter. The long hours of darkness prevailing in winter, coupled with short distance between the opposite shores, provide very favorable conditions for the conduct of naval operations, particularly for the side with inferior airpower. Of course the opposite is true during the summer when darkness is from one to five hours long and twilight lasts the entire night. At 66°N the sun is continually above the horizon. Thus in the summer, naval operations would require reliable air cover because most of the missions would take place during daylight hours.

The Baltic extends along the main north-south axis for about 920 nautical miles (nm) and has an average width of a little over 105nm. Sea distances between various points are relatively short. For example, only 90nm separates Rostock from Copenhagen (see Appendix A).

The small distances in the Baltic would permit a side possessing air superiority to dominate a naval battle to a far greater extent than would be the case on the open ocean. The air threat alone severely restricts the employment of major surface combatants such as cruisers and destroyers. At the same time, the closeness of the area allows even the weaker opponent to carry out surprise air and sea attacks

against enemy targets with a high probability of success. The small distances in the Baltic significantly enhance the possibilities of achieving tactical and even strategic surprise in the conduct of naval operations. The short distances permit the execution of offensive missions in rapid succession, thereby making it very difficult for the defender to recover from the blows of a previous strike.

Aside from the short distances, the Baltic Sea is predominantly shallow, with about 60 percent of the total area less than 165 feet deep. The deepest water, about 1500 feet, is found between the island of Gotland and Sweden's port of Nykoping (see Appendix B). The average depth of water in the Great Belt is from 42 to 74 feet and in the Sound from 52 to 123 feet.

"Water depth in a 'narrow' sea directly determines 1) the size of ships and submarines to be employed, 2) the ships' speed of advance, 3) the use of underwater weapons, and 4) the effectiveness of ASW acoustic sensors."[2] However, this same shallow water makes the Baltic particularly suited for mine warfare. All types of mines can be effectively deployed in the Baltic.

Water depth, the closeness of the coast, and the character of the sea bottom have a considerable effect on underwater sound propagation. These factors limit the effectiveness of sonar systems in underwater detection.

Water temperature and salinity changes tend to improve sonar conditions in winter, but that is also the time when sea states tend to be higher which can cancel any improvement.

The last geographic consideration to mention is the weather. From October through March westerly and southwesterly seas predominate in the Baltic. The frequent passages of severe storms add to the roughness of the sea. The high sea states, which predominate the fall and winter months, influence the speed of surface ships, affect comfort and cause crew fatigue. This is especially the case for shallow draft Fast Patrol Boats (FPBs) and amphibious ships. A conventional-hulled FPB becomes very difficult to operate effectively in high sea states and speed is drastically reduced to prevent structural damage.

In the Baltic visibility is poorest in winter and spring, and best in summer and early fall. Fog is frequent over open water from December through June. There is an average of twenty days precipitation during December and snow falls over the north Baltic an average of 40 to 50 days a year.

Ice generally presents a significant obstacle to navigation in winter even in average years; but in severe winters the entire region north of the sourthern tip of Gotland is ice-encumbered. In the Gulf of Riga ice hinders navigation for 60 to 120 days and stops it 30 to 80 days per year.[3]

In contrast to war in the open ocean, a conflict in the Baltic would force both sides to face each other more directly and thereby offer greater opportunities for surprise, short, intense attacks and more frequent assaults with less time to recover. The side with the weaker navy would have great difficulty avoiding direct conflict with the numerically superior force.

B. THE THREAT

After a brief look at the geographical constants which effect Baltic security, it is necessary to look at one of the most important variables. A variable may be defined as one of those factors over which man has some control and ability to change. The first and most significant variable that must be considered is the form of the threat. The security of the Baltic Approaches, like that of the rest of Western Europe, is threatened by the expansion of Soviet political and military power.

A common myth among many Western politicans implies that NATO tends to over-estimate Soviet military power and fails to consider the many weaknesses which plague the Warsaw Pact. This myth has been encouraged by dangerous misperceptions that gained credence during the last few years because of growing foreign policy discord between Western Europe and the United States.

Americans and Europeans alike can remember the almost universal failure of allied estimates of Nazi and Japanese intentions in the World War II years. There were those who accused the allies of inventing the threat in order to justify defense buildups and war retoric.

The Soviets have never had a problem defining the threat or who is to blame for the arms race that has resulted. The paranoid function of inventing enemies has become one of the not inconsiderable organizing principles of the Soviet state and certainly the military. The Soviet press continually tells the Soviet populace that they are surrounded by imperialist enemies wishing to dominate and destroy the Motherland. Wasn't it Western Imperialists who unleased the Nazi hordes on Russia in World War II? Fear and panic about war and enemies reinforce the intense Soviet campaign for military readiness.

The ideology which calls for Russia to be prepared to repel sudden attacks from the imperialist is equally useful for encouraging the need for launching pre-emptive attacks in order to prevent such an invasion.

Soviet leaders have reiterated on many occasions, that the threat of war exists as long as imperialism exists. Marshal V. D. Sokolovsky stated in 1963 in his first edition of Military Strategy that: "The main source of the military threat is the aggressive policy of American

imperialism, which reflects the desire of United States capitalist monopolies for world domination."[4] Many people in the West have failed to comprehend this basic principle of Soviet ideology. The Soviets hold that socialism and capitalism are two dialectically opposed systems, and that history will not permit a non-coercive solution to the differences between those two systems. A fundamental tenet of Leninism is that only through the destabilization of the world order as it exists can imperialism be overthrown. Any future world war will be regarded by the Soviets as a confrontation between two opposing world socio-economic systems--socialist and capitalist. The objective will not be only geographical but ideological as well.

Robert Bathurst expressed this view of modern Soviet warfare: "Thus, the Soviet language of war does not begin where the American does, with a breach of legality, or end where it does with a military defeat. It begins with the exacerbation of class warfare (which emerges often as the warfare of political parties) and ends with nothing less than the transformation of society. The last Soviet battle does not take place when the missiles have ceased to fly, but when the revolutionary executions against the wall have stopped."[5]

Western foreign policy strives to maintain the stability of the world in order to ensure peace. The West seeks to

maintain the status-quo. However, the communist dialectic demands an unstable world that is susceptible to change. The Soviets perceive internal stability to be a result of external instability. Their foreign policy seeks to promote a system of world instability in which anti-imperialist struggles can be promoted. It appears evident that these two policies of world order (or disorder) could well eventually lead to conflicts on the ideological, political, social and possibly even military levels.

The Soviet military buildup has been massive and relentless. For the past two decades, the Soviet military has claimed twelve to thirteen percent of the Soviet Union's Gross National Product and is growing at a rate of four to five percent in real terms each year. This massive dedication of resources has enabled the Soviet Union to accelerate its production of new weapons systems and force expansion, while the West has exercised restraint in the atmosphere of detente.

In 1981, the Soviet Union made operational new SS-20 missile sites at a rate of six launchers per month, its highest rate of deployment ever, thus adding over 200 warheads on launchers.[6] The Soviets now have 351 launchers for the mobile and accurate SS-20 deployed and operational, comprising 1,053 warheads.[7]

In spite of statements to the contrary, The Soviet Union continues to build up it's nuclear forces. Current estimates indicate there are 630 SS-21s, 554 SS-22s, and 100 SS-12/22 land based surface-to-surface missile launchers in Eastern Europe which if forward deployed, could reach deep into Western Europe.[8] Combining these missiles with the nearly 380 SS-4 and SS-5 missiles still operational, they effectively cover a range from about 100 km for the SS-21 to about 4,000 km for the SS-5. Including SS-20, SS-4 and SS-5 missiles, the Soviet Union has about 1,300 longer-range land based INF missile warheads on operational launchers.[9] NATO has not modernized it's nuclear forces since the introduction of the short range LANCE missile in the early 1970s.

In a conventional perspective, the Warsaw Pact introduced about 2000 T64/72 tanks into its inventory in 1981.[10] The Soviets also placed the T80 tank in trial production. Allied Command Europe (ACE) fielded about a third that number in modern tanks. In 1981, the Pact air forces added about 1000 new aircraft, most having twice the range and three times the payload of those replaced. ACE added less than half that number of new aircraft.[11] As for naval forces, during that same period, the WTO launched an additional eight submarines (five nuclear-powered) and added 30 surface ships of various types to its operational force. NATO nations roughly matched the Warsaw Pact in naval

construction, but NATO's maritime modernization programs still lag behind the growing requirements of an ocean-dependent alliance.

Although military figures do not reflect the complete balance, the frequently heard arguments for the West's healthier economies, democratic political systems and a more open and equal alliance, do not translate into reductions of the WTO's overall military strength. The Soviets have created a military apparatus which has been able to dominate life in the Warsaw Pact nations.

Many who argue that Soviet military power is exaggerated also contend that current American security policy is destabilizing and upsetting the world balance. It would be more accurate, perhaps, to see U.S. policy today as a reaction to the Soviet failure to exercise restraint during the detente of the 1970s. Recent arms reduction negotiations demonstrate that the Soviets see no security in equality. In the Soviet view, security can only be assured from a position of superiority. This attitude is intended to make Western security untenable.

C. HISTORICAL PERSPECTIVE

Soviet security requirements, and the strategy followed to achieve them, should not be unfamiliar to NATO. Soviet military strategy remained relatively unchanged after World War II and during the formation of NATO.

Immediately after the Federal Republic of Germany joined NATO, the Warsaw Treaty Organization was formed in May 1955. It is a multilateral military and political alliance between the USSR and East Germany, Poland, Czechoslovakia, Hungary, Rumania and Bulgaria (Albania withdrew in 1968). The backbone and major stockholder in the organization is the Soviet Union. To strengthen the organization, bilateral treaties of alliance and friendship have been signed between each individual member nation and the USSR. The Soviets have deployed troops in Poland, East Germany, Hungary and Czechoslovakia under a status of forces agreement with the host country.

Since the early 1950s, the Soviet Union has risen from a position of nuclear inferiority to the United States, to one of relative parity. Both NATO and the Warsaw Pact have modified their strategies accordingly. NATO's 1950s policy of massive retalization was credible from a position of U.S. nuclear superiority but provided few options to defense planners in an era of parity.

In 1967 NATO adopted the strategy of flexible response. Flexible response emphasizes the concept of NATO's diverse retaliatory options. The NATO triad is composed of strategic nuclear forces, theatre nuclear forces, and conventional forces. Unless the USSR preceded NATO in using nuclear weapons, NATO would use nuclear weapons only if conventional

forces could not resolve the "crisis". NATO is not oriented toward war-winning, but rather toward deterrence of conflict and prompt crisis resolution, restoring the security and integrity of the NATO area as rapidly as possible and with as little violence as possible. The flexible response concept assumes that NATO would have sufficient warning time to mobilize before any conflict with the Warsaw Pact. The strategy is intentionally clouded with ambiguity to allow for liberal interpretation by the Alliance partners. Because it does not rule out the possible first use of nuclear weapons, it provides an incalculable risk factor for Soviet planners.

Initially some European leaders (particularly in France) saw flexible response as a decoupling of the U.S. from Europe or at least a weakening of the U.S. nuclear guarantee. In recent years, West Europeans have developed increased respect for NATO policy, as a more realistic response to Soviet military power than "massive retaliation" of the 1950s.

In 1968, one year after NATO adopted flexible response, Marshal V. D. Sokolovskiy published his third and last edition of Military Strategy. This series became the foundation of a new Soviet (and Warsaw Pact) strategy which has remained relatively unchanged.

However, the continuing Soviet strategy that Sokolovskiy authoritatively articulated in 1968 does not appear to fit the basic NATO assumption of ample warning time. Soviet strategy clearly emphasizes what it refers to as a significant "pre-emptive strike". The Soviets prefer the term pre-emptive because it implies their acting before NATO "imperialists" can carry out alleged plans to strike first. The Soviets do not want the moral opprobrium of publicly planning a first strike, but they do say that they will achieve surprise, seize the initiative, and pre-empt the first strike plans they falsely attribute to NATO. The strike is intended to be without warning, capitalizing on the strategic use of nuclear weapons.

Soviet military strategy is oriented toward victory rather than crisis management. Sokolovskiy put it in these terms: "The military and political arms of a world war can only be attained by the elimination of strategic weapons, destruction of the enemy's economic base, defeat of his armed forces in the theaters of military operation (land and sea), and capture of his territory."[12] The Soviets view military power as the ultimate means for pursuing political rends. Soviet diplomacy, and all other manifestations of Soviet policy are intended to develop favorable circumstances for bringing this power to bear. The communication of serious military intent contributes toward frightening

the West and allows for the use of military power on more subtle levels--e.g., blackmail and creating situations of vulnerability for their opponents. Power, whether subtle or blatant, is traditionally focused on the weakest point in the enemy's defenses.

In the Baltic region, the maintenance and growth of Soviet military power has been quite evident. Eastern Europe and the Baltic States have continually felt the pressure of Soviet military resolve. The increase in Soviet military strength has four uses in Northern Europe: 1) overt Soviet aggression; 2) political influence without the use of force; 3) exploitative political influence on a case by case basis; and 4) political suppression of Soviet satellites.[13] The Soviets have threatened the first, attempted the second, and have been active in the fourth. American power and NATO cohesion may have been the elements which blunted Soviet initiatives in the second and third categories, but the relative decline of Western power in recent years has created an opening for renewed Soviet activity. However, a more serious threat than direct military intervention in Scandinavia, may be the indirect danger of "Finlandization".[14]

D. STRATEGIC PERSPECTIVE

NATO strategies have divided ACE into three major regions based on the dictates of geography: the Central

Front and the Northern and Southern Flanks. In the past, the majority of NATO's resources and defenses have been directed toward the Central Front, but increasingly the Soviet military and political threat to the flanks appears to pose even greater challenges. Soviet strategists indicate that the concept of flank envelopment is still a preferred tactic. Marshal of the Soviet Union, A. A. Grechko, in his book of Soviet military doctrine, addressed three basic types of recognized "operations", one of which was encirclement. Primary to a successful military offensive is "the encirclement and subsequent destruction of the enemy by delivery of two main attacks in converging directions, while at the same time shattering the enemy's defenses and pushing one's own offensive deep into his rear".[15] Admittedly, this idea refers to World War II battlefield tactics. However, on a larger scale the basic forms of Soviet war fighting operations do not appear to have been altered.

The Central Front and Northern Flank come together at the Baltic Sea, control of which is necessary for maintaining cohesion and contiguity in allied support of Northern Europe and Western Europe as a whole. Geographic vulnerabilities of this region may be seen by a glance at a map. Scandinavian governments often appear weak and ineffective because of multi-party systems and growing

conflicts between the financial claims of social welfare and defense. Soviet efforts to perpetuate and aggravate these weaknesses through political or military means, while attempting to strengthen their own position and interests, are analyzed in this thesis.

The Soviet Union meets the three requirements of a naval power according to Mahan: a strong fleet, a strategically adequate geographical position, and a maritime way of thinking. This is especially true in the Baltic, where the Warsaw Pact maintains a naval force five times that of the NATO nations, and controls, either directly or through its allies, over 60 percent of the coastline. For the maintenance and supply of the Soviet navy, the Baltic is of great importance. By far the largest naval repair facilities for the Russian fleets are in Baltic ports, notably Leningrad. The Baltic Sea drives a wedge deep into the industrial heart of the Soviet Union. The Soviet naval bases in the Black Sea and Pacific are of secondary importance for these purposes. The Northern fleet facing the Artic, remains the most substantial, as well as the least vulnerable geographically.

Vice Admiral Gerd Jeschonnek, a former Chief of Staff for the Federal German Navy, discussed the naval warfare potential of the Warsaw Pact in these terms:

"The Soviet naval warfare would be impaired considerably if the Soviets failed to utilize the war potential in the Baltic for the overall warfare. Thus, the possession of the Baltic Approaches gains in this conjunction importance for the allied warfare all the more since the route from the Baltic bases to the Arctic Ocean base via the Arctic Ocean Channel can only be used during the ice-free season, and it is easy to block. From statements of Soviet politicians and measures of the Soviet Navy, it can be seen that it is still the aim of Soviet politics, also to achieve superiority in power in the Baltic area, which would offer a wide range of possibilities for negotiations to the Soviet leadership."[16]

When NATO adopted flexible response, strategists in both the East and West realized that strategic nuclear parity would soon exist between NATO and Warsaw Pact. However, military parity has never existed in the Baltic or the Northern Flank since the close of World War II. The Baltic is a region of considerable Warsaw Pact force superiority.

With several thousand tactical nuclear weapons behind the Central Front lines, both sides must realize that a confrontation in Germany would probably lead to the use of nuclear weapons. Given its inferiority in conventional forces, NATO would find it difficult to avoid the use of nuclear weapons to stop the Red Army before it reached Western nuclear depots. At West Germany's waist the theater is only 130 miles wide. General Bernard W. Rogers, the Supreme Allied Commander in Europe discussed the Central Front in this way:

"Instead of possessing the variety of capabilities which would truly translate into flexibility in response, NATO is left in a posture that in reality

> can only support a strategy more accurately labeled a "delayed tripwire". The amount of delay following a conventional Warsaw Pact attack before the tripwire would be activated and NATO would face resorting to the nuclear option would depend on such variables as length of warning time and the timeliness and appropriateness of decision taken by political authorities. Against large-scale conventional aggression, even with adequate warning and timely political decisions, our posture might at best be sufficient to allow NATO only the time and security necessary to deliberate and escalate to the use of nuclear weapons."[17]

Such danger is not present in the north. Even if implementation of NATO's two track decision leads to initial deployments of intermediate-range nuclear forces in Western Europe in December 1983, the northern flank will remain a voluntary nuclear-free zone. Because of this lack of a U.S. nuclear presence, Soviet planners may doubt whether a nuclear response to a conventional attack in the north would be likely.

To a greater degree than ever before, the Baltic has become a Russian lake, with the Soviet-dominated coastline now lengthened from 75 miles in 1939 to nearly 1000 miles today. The expanded coastline includes numerous commercial ports and naval bases, some of them, those in the south and west, normally ice-free. Even so, the Soviet geographical situation is still basically less favorable than was Germany's during World War II. Germany at least has a coastline directly on the North Sea.

The Danish peninsula of Jutland breaks the otherwise unhindered European coastline from Leningrad to the channel ports. Jutland is not only an obstacle to coastline traffic along Europe's north shore, but also a gangway to Central Europe. It is a relatively narrow finger denying the merger of the North Sea and Baltic. Behind Jutland, the Germans used the Baltic for supplying the armies on the Eastern front during World War II. Today, the Baltic still serves as a major supply route for the Soviet Union's forces in Eastern Europe.

With such a large naval force in the Baltic, the WTO may well aim at two major strategic objectives in a conflict with NATO: 1) the seizure of Danish and North German territory by amphibious and airborne assaults; and 2) control of the Baltic Approaches and the sea areas that connect Central Europe with North America.

It is apparent that a seizure of the Danish islands is a prerequisite for gaining control of the Baltic Approaches. The number of landing ships and amphibious assault craft maintained in the Baltic by the littoral Warsaw Pact countries is significant. Of these countries, none has islands that might necessitate the use of amphibious ships for defensive purposes. The nature of Warsaw Pact exercises and the size and shape of their amphibious forces show that they are specifically designed for offensive operations.

Nor are their landing ships of such a type as to suggest a more far-reaching concept of operations. The reactivation of the Soviet Naval Infantry in 1963 was a reflection of the renewed Soviet interest in amphibious operations.

NATO's control of the Baltic also hinges on control of the Baltic Approaches. If the West is to successfully bottle up the Soviet Baltic Fleet and prevent access to Baltic shipyards by Northern Fleet ships, it must control the straits. With a numerically inferior force, NATO will rely heavily on mine warfare to accomplish this task.

The laying of effective defensive minefields with sophisticated mines is much easier than their clearance. The 1972 American aerial mining of North Vietnamese ports during the Vietnam War provides a clear example of this point. Though minefields were in place in a matter of hours, it took several months with sophisticated mine-counter-measures (MCM) equipment to clear the nearly 8000 mines utilized during the 9 month blockade.

The past blocking of the Danish Straits in the two World Wars, and the present art of mine warfare are both well known to the Soviets. They have extensive mine warfare capability and experience. However, to force their way through the Danish Straits once allied mines are in place, if it were at all possible, would be a very costly and

demanding job. NATO's success appears to depend on warning time and the political resolve to use it.

In addition to the military capabilities of the Warsaw Pact forces in the Baltic, the Kremlin has a powerful and versatile instrument capable of exploiting indirect strategic opportunities through political blackmail or for the purpose of denying parts of the open sea to other countries. In the Baltic, the Soviets have achieved a fair amount of success in the latter.

The Baltic is a bottle with only one way in or out. As long ago as 1908, the British made the decision not to send major warships into the Baltic if war broke out with Germany. Consequently, only a few British submarines entered the Baltic Sea in World War I. No ships from non-Baltic nations operated in the Baltic during World War II primarily because of mines in the Danish Straits. Even today, on the infrequent occasions that NATO's STANAVFORLANT ships enter the Baltic Sea, they confine their cruising to the very western portion. Both the Canadian and Dutch governments have questioned the necessity of their ships operating in the Baltic. Few and rare are the occasions when NATO navies, other than Danish and German, ply Baltic waters.

Allied unwillingness to deploy non-Baltic nation ships in the Baltic, presents both Denmark and Germany with a

unique security problem. Far behind the Iron Curtain, even further east than Berlin, lies the Danish island of Bornholm. Here the build-up of the Warsaw Pact landing forces is very seriously felt. Through Bornholm plays only a minor role in controlling the straits, it has been suggested that, since only Danish military forces are based there, the Soviet Union might be tempted to attack the island in order to test NATO's resolve in a period of crisis.

If the Soviets wished to bring their seapower to bear in Central Europe, without actually crossing the Central Front, they could conduct a limited strike on the German island of Fehmarn. From Fehmarn, the sea passages from the Central Baltic to Kiel Bay and the shores of Schleswig-Holstein and Jutland could be controlled as well as the southern entrance to the Great Belt, the most navigable of the three Danish Straits (see Appendix A).

Apart from such a test, it is difficult to envisage a situation in which an attack upon Danish or German territory would not involve forces under NATO's Central European command. Any further Warsaw Pact operation against NATO would have to plan for complete seizure of the Baltic Approaches, as Germany did in World War II. Control of the approaches is vital for the control of Europe's central region.

Often it is pointed out that in the strategy of both NATO and the Warsaw Pact, the North Sea and Baltic Sea constitute an integral whole. Whereas the Baltic serves as a Soviet artery of supplies to the Central Front, the North Sea has a similar function for NATO.

Since 1966, when France militarily pulled out of NATO, the major U.S. supply line runs through Bremerhaven on the German North Sea coast. The responsibility for providing a continuous flow of supplies to the Central Front via Bremerhaven and other ports such as Rotterdam and Antwerp rests with the allied navies (see Appendix C). The key to the security of these sea lanes once again rests on the Jutland peninsula. Depending upon who controls this strategic piece of land, it becomes "a defender's bulwark or an attacker's pedestal."[18] Either side could use it as a defensive area from which fighter-bomber aircraft could reach well out into the Atlantic or over the Soviet heartland.

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PART ONE

THE BALTIC AS A WARSAW PACT CONSIDERATION

II. SOVIET INTEREST AND INFLUENCE IN THE BALTIC

In 1709, when Peter the Great defeated the Swedish forces of Charles XII at the Battle of Poltava, Russia secured its window to the West. Since that time, though other Russian objectives have changed, their interest in the Baltic Sea has never faltered and has gradually increased. Prior to the Great Patriotic War (World War II), the Soviets controlled only a small portion of Baltic Sea coastline around Leningrad. In the 1920s and 1930s, Soviet diplomacy sought to increase its influence and establish some sort of control over the Danish Straits.[1] During the war and in the post-war period, Stalinist diplomacy continued to expand Soviet influence over coastal territories in the Baltic. This included gaining a legal foothold over the Danish Straits through an internationally recognized agreement.[2]

The Soviets learned to appreciate the advantages that could be gained by expanding their boundaries and increasing state security through the use of seapower. It was the defense of their small foothold on the Baltic that became the Soviet geopolitical justification for the acquisition of the Baltic States as well as territory from Germany, Poland, and Finland. With control over the present coastlines of

East Germany (GDR) and Poland, the Baltic Sea is squeezed by the grasp of Soviet influence.

The Baltic Sea represents the most efficient supply route for the Russians. The Soviet Union depends on Baltic Sea transportation for COMECON, East-West and third world trade. It is through Baltic ports that the USSR receives many of its vital imports. Warsaw Pact shipping contributes between 10,000 and 15,000 passages through the Danish Straits per year, or one-sixth of the total number of passages.[3] In 1968, there were over 73,000 passages of merchant vessels and 7,000 fishing vessels from Warsaw Pact countries. Forty to fifty percent of the Soviet merchant marine is registered at Baltic ports, and more than 25 percent of the fishing fleet operates from the Baltic Sea. An average of 400 passages of Warsaw Pact naval units takes place each year.

The oldest of the Russian fleets and a powerful arm of Soviet maritime capability remains enclosed in the Baltic Sea. The present composition of the Soviet Twice Red Banner Baltic Sea Fleet is designed primarily to ensure control of Baltic waters, coastal defense and support offensive amphibious operations in the Baltic region. However, in any protracted conventional war scenario in which ships of both sides must expect to suffer heavy damage in the initial exchanges, units of the supremely important Northern Fleet

will require access to the repair yards of the Baltic. Along the Russian, Polish and East German Baltic coast is located more than half of the Warsaw Pact ship-building and repair capacity.[4] In addition, the Baltic points to Leningrad, the second largest industrial center in the Soviet Union and the home of most naval training schools. The Baltic Sea's potential role as either an avenue of attack or one of resupply and forward stationing makes the region sensitive for both the Soviet Union and NATO.

It was the Baltic Sea's geographic vulnerability, demonstrated in both World War I and World War II, that resulted in the Soviet decision to center the largest and most important element of the Soviet Navy on the Kola Peninsula. It is only through the Barents Sea that the Soviet Navy can enter a major ocean without high risk of detection. However, modern Soviet naval exercises still demonstrate the desire to control the Baltic Approaches and allow for the merging of the Baltic and Northern Fleets in order to sever Norway from NATO while at the same time protecting the Soviet flank and providing a location for possible forward basing of Soviet naval aircraft (SNA) to disrupt NATO SLOCs. The Soviets prefer to view the Danish Peninsula as a forward defense line but realize that they would have to dominate the Baltic in the early stages of any conflict to accomplish this. Such aggression would be met by the combined strength of NATO.

Another alternative available to the Soviets is the removal of the political will of Baltic nations, a "Finlandization" of their national policies. The Soviets see their best defense in the seizure of the tactical advantage in whatever direction that may lie and through whatever means is available. Neutrality and Nordic fragmentation (rather than Nordic unification) are thus beneficial to the USSR.

A. SOVIET POLITICAL THREAT

The tensions of the fifties and sixties caused by such events as the Soviet suppression of the freedom fighters in Hungary, the Berlin Crisis (culminating in the walling off of the East Sector) and the Soviet invasion of Czechoslovakia were tranquilized by Soviet overtures toward detente in the 1970s. The spirit of Helsinki (Final Act of the Conference on Security and Cooperation in Europe, 1975) and the peace-loving protestations of the 25th Congress of the Communist Party of the Soviet Union in 1976, were two of the detente initiatives aimed at Scandinavia.

Fortunately for NATO, the Soviet Union's foreign policy occasionally undermines their own efforts toward pacification and cause suspicions to persist. The 1979 invasion of Afghanistan ended East/West detente as far as the United States was concerned (although U.S. rhetoric still professes interest in a "genuine" detente). However, it was the

violation of Swedish territory by the October 1981 grounding of a Soviet submarine U-137 near Karlskrona Naval Base, that caused an even greater alarm in Scandinavia. The "Whiskey on the Rocks" incident infuriated the Swedes, but the apparent discovery of 22 pounds of uranium 238 aboard the sub, on either nuclear torpedoes or mines, made Soviet detente less palatable and reawakened Nordic leaders to Soviet intentions.

Still, detente is alive and well in Western Europe and Scandinavia is no exception. The Soviet political assault has been twofold: use and abuse of the so-called "Nordic Balance" and efforts to make the Baltic a closed sea. Both efforts are backed by the development, exercise and threat of overwhelming military might in a thinly veiled scheme of military blackmail.

Steady diplomatic and political pressure is being applied in the Soviet push for a nuclear-free zone (NFZ). The growth of anti-nuclear sentiments has added new impetus and urgency to an old subject and the Soviet Union is taking full advantage of public pressure.

They have long been extremely interested in keeping Western nuclear forces out of the Baltic. The threat of American strategic bombers and aircraft carriers caused Stalin to take various counter-measures in order to prevent foreign ships and aircraft from getting close to the shores

of Russia. Among them was the Soviet's unilateral extension of what they claimed as territorial waters from the traditional three miles allowed by international law to a useful twelve miles. In the Baltic, the Soviets enforced these limits rigorously; and Danish and Swedish fishing boats that transgressed these new limits (sometimes questionably) were promptly seized. In the same vein, Stalin also ordered the shooting down of Swedish and American aircraft that were accused of penetrating Soviet national airspace. It was clear that Stalin wanted to show the West in a clear and brutal manner the dangers inherent in foreign aircraft flying around the east end of the Baltic or Barents Seas.

The view of the Soviet Government, during the Khrushchev era was that the neutrality of Swedish foreign policy, the observance by Finland of Articles One and Two of the 1948 Treaty, and the demilitarization of Norway's northern islands of Svalbard, provided reasonable safety for Russia's northern flank. In 1956 the Soviet Government officially accepted the validity of the Swedish policy of military non-alignment.

At the same time the USSR sought to increase the military advantages it derives from the neutralization of this area. In 1957, Bulganin tried to persuade Denmark that it should leave NATO and become neutral; while in 1964

Khrushchev, during a visit to Sweden, commended the Swedish plan of the time for a nuclear-free zone in Northern Europe (In the early 1960s, the USSR, given its nuclear inferiority to the United States, was much in favor of nuclear-free zones everywhere).

A NFZ in Scandinavia, by agreement of the regional nations would be one more step closer to making the Baltic into a "closed sea". The Soviets have devised three different categories of seas: internal, closed, and open seas. Internal seas are those that are surrounded by the territory of a single state and are consequently subject to the jurisdiction of only that state. Closed seas, which are surrounded by the territories of at least two states, have only limited access to the open sea. The jurisdiction of the closed seas is the concern of the littoral state exclusively. The Baltic Sea belongs to this group, in the Soviet view. The open seas are all those not included in the first two groups.[5]

The Soviet view accepts that merchant ships from non-littoral states have a right of passage through straits to closed seas, but this right is denied to warships from non-littoral states. This would effectively deny U.S. warships, as well as land or sea based nuclear weapons, from the Baltic. This view is contrary to current international law.

The Soviets clarified their position on a Baltic nuclear-free zone as far back as 1959 in Izvestia (14 August 1959):

> "The establishment of a nuclear and missile free zone in the North would become the first stage in the transition of all the Nordic countries to a neutral status... The Soviet Union, together with the other great powers, would be prepared to respect the neutrality of the Nordic countries, their territorial integrity and independence without interfering in their domestic affairs."

They again made NFZ proposals in 1963 and 1973.[6]

The Kekkonen Plan, introduced by then Finnish President Urho Kekkonen in May 1978, was also a Kremlin-orchestrated proposal. Underlying the plan was the assumption that the so called Nordic Balance was not a static pattern but a continuing balancing act between different interests. This plan was also rejected, not only by NATO allies but also by neutral Sweden. If actualized, the plan would have had negative impact, as it would have limited NATO options in the North. However, the Finnish plan actually served as a confidence building measure which strengthened the balancing factors in the region and solidified Finland's unique position as a proponent of Soviet Baltic policy.

To date the question of NFZ remains unresolved, in part because of Soviet unwillingness to consider Baltic portions of the USSR as nuclear free. Without such equal pledges, the North would be subject to nuclear blackmail. However, if the credibility of American resolve to use nuclear

weapons to defend NATO territory becomes increasingly suspect, and NATO's conventional forces fall farther and farther behind those of the Warsaw Pact, this arrangement may appear more attractive to vulnerable West Europeans.

In 1965, Sweden announced its decision not to build nuclear weapons and both Norway and Denmark have elected not to allow the introduction of nuclear weapons on their soil. In effect, a one sided NFZ exists without a formal agreement.

Closely aligned with the idea of a NFZ is the Scandinavian political concept of the Nordic Balance. The Nordic Balance is a political spectrum of East-West orientation based on geographic proximity to the USSR and the outcome of World War II. The Balance spectrum exists as follows: Finnish neutrality and Eastern orientation based on the 1948 Defense Pact with Russia; Swedish neutrality; Norwegian and Danish NATO membership with reservations on basing and stockpiling NATO men and material on Norwegian and Danish soil.[7] The Nordic Balance according to the West, is supposed to reflect a subsystem of the overall European balance of power. It is supposed to be self-regulating; i.e., in 1961 the Soviets sought to invoke the 1948 Defense Pact with Finland by demanding radar bases on Finnish soil; the crisis was resolved when Norway threatened to permit allied forces into Norway; subsequent Soviet withdrawal of

the demand restored the Nordic Balance.[8] The Nordic Balance can be summed up as follows:

> "Nordic Balance is a theory of regional equilibrium maintained by the Nordic nations between the major power blocs of NATO vis-a-vis the Warsaw Pact by reasons of geography, political, military, and economic factors, and most importantly, by the roles of the Nordic countries themselves.[9]

Troubled economic conditions have caused Scandinavia to turn to the East in search of new markets. Closer trade relations can result in stronger economies but also in greater interdependence. For the Soviet Union, trade fulfills three functions: 1) augmentation of the domestic economy; 2) expansion of political influence abroad; and 3) access to foreign technology.[10]

> "In foreign economic relations are intertwined politics and economics, diplomacy and commerce, industrial production and trade."
>
> "We regard foreign economic relations as an effective means helping to carry out political and economic tasks."[11]

What is significant about Soviet trade relations in today's era of European detente, when Russian resources are increasingly in demand and Soviet manufacturing is essentially self-sufficient, is the dependency it can create on the part of its trading partners.

Finland is the most obvious example of this. After signing the peace treaty with the USSR in 1947, the Soviets got a captive industrial complex and a virtual monopoly over exported resources. Since the Soviet Union set the

specifications for manufactured items to satisfy war reparations, today it has guaranteed supplies from Finland, long after the fulfillment of the treaty. Until the recent completion of three nuclear power plants, Finland was totally dependent on the USSR for its energy requirements; even now 70 percent of its crude oil comes from the Soviet Union. Finland's dependence upon imports from Communist countries doubled from 1973 to 1974, and the preponderance of these imports came from the USSR. In 1975, when many Western economies were suffering from the effects of inflation, Finland managed to almost double its exports to its Communist trading partners.[12]

There is an economic advantage wielded by the USSR and other Communist states over their capitalist rivals. The State-run economic systems can expand or contract their trade at will, if only to the detriment of their laboring populations, to accommodate the foreign policy of their governments. This tends to make them attractive trading partners in hard economic times. Thus far, Finland is the exception in Scandinavian trade policies, but it provides an illustration of the advantage of Communist trading partners and the changes inherent when trade becomes a political weapon.

The strength of the Scandinavian Communist parties varies from country to country. In Finland, where they are

proportionally larger than elsewhere in Scandinavia, they still hold less than a quarter of the seats in the Finnish parliament. The Scandinavian Communist parties are divided and vary in their loyalty to Moscow. However, they do provide Moscow with a valuable tool that can be manipulated quickly to exploit weaknesses and stir up trouble for Western policies. An example of this seems to be in the Communist party influence in the nuclear freeze movement. The more serious threat does not appear to be from the continued growth or power of these parties but instead, from the political ideology they propose and the ability of Moscow to use them as a political and economic lever.

As mentioned earlier, a real political threat is the political apathy--or, more precisely, the feeling of helplessness and vulnerability--that seems to run hand-in-hand with Finlandization. If Scandinavian governments arrive at the conclusion that they can do nothing to counter Soviet power, Nordic security is in danger. Typical of that position was a somewhat sarcastic proposal by Mogens Glistrup, leader of the Danish Progress Party in 1977, when he recommended that Denmark's defense apparatus be abolished and replaced by an automatic telephone service to Moscow that would say "we surrender" in Russian.[13]

B. THE SOVIET MILITARY THREAT

History has repeatedly demonstrated the vulnerability of the Baltic region. The German conquest of the Baltic states

in World War I and II, the Soviet naval defeat by Germany in the Baltic, Finnish alliance with Germany and subsequent war with the Soviet Union are a few examples. Soviet naval weakness in the face of superior naval power able to project force against the Soviet periphery was the basis of Admiral Gorshkov's February 1963 statement that encouraged the USSR to build a navy sufficient for sea denial/interdiction, to prevent the threatening U.S. Navy from projecting seaborne aviation and SLBMs against the Soviet homeland. Defense in the Baltic means defense of the Northern Soviet Union, particularly Leningrad.

Soviet capability and intentions are manifest in both visible force levels and actual exercises. The ships from the Baltic and Northern Fleets joined together in the Norwegian Sea during a coordinated exercise called "SEVER 1968" and again in the famous "OKEAN" exercises of April 1970 and 1975. The Baltic Fleets' role in "OKEAN 70" was to provide flank cover for the Northern Fleet by steaming through the Danish Straits into the North Sea, up the Norwegian coast and around the North Cape. It was a plan uncomfortably similar to the German invasion plan of Norway in 1940.[14] "OKEAN 75" introduced amphibious assault exercises for the first time in the Bay of Lubeck, which signalled a seaborne assault capability against Denmark. This exercise also demonstrated Soviet sea denial potential

by deploying attack submarines to the Norwegian Sea along the Greenland-Iceland-United Kingdom (GIUK) gap. Again in 1976 there was a joint exercise in the Baltic of Soviet, Polish and East German forces, which again displayed amphibious and ASW capabilities.

The Danish Seidenfaden Report on National Security of September 1970, listed Soviet military denial goals with respect to Denmark and the approaches as follows: 1) limit free passage to and from the Baltic; 2) limit passage to Soviet vessels; 3) serve as a springboard for operations in southern Sweden and Norway, or against NATO naval forces in the North Sea; 4) limit penetration and interdiction over Soviet territory.[15] Denmark, flanking the strategic straits of the Kattegat and Skagerrak, as well as controlling the still narrower straits leading to the Kattegat, presents a NATO choke point for the Soviet Baltic Fleet. Control of the straits changes the value of the Baltic Sea. The Soviet interests in the Danish Straits are a function of the expectation of the importance of the straits in a military conflict with NATO.

Because of its composition, compared with the three other Soviet fleets, the Baltic Fleet must be assumed to have relevance primarily on the conventional level (see Appendix P). However, it seems probable that at least a part of the Soviet navy's North Sea and Atlantic task force

will come from the Baltic. Behavior in exercises during the last decade confirms this.

The presence of Soviet Golf-2 submarines in the Baltic has brought a new capability to the region. Six Golf-2s were transferred to the Baltic Sea from the Northern Fleet in the fall of 1976. The submarines were built from 1958 to 1962 and were the first Soviet subs to carry ballistic missiles with a range up to 600 nautical miles.[16] This directs an even greater number of nuclear weapons at Western Europe. The Golf's missiles were not counted in the SALT-1 agreement on limitations of offensive weapons, due to their relatively old age and short range. Since the USSR already has considerable land based intermediate range missile capability, they are not very significant in the theater nuclear balance. However, in the minds of Nordic defense planners, the Golf submarine represents one additional threat to their security that must be considered.

Overall maritime superiority of the Warsaw Pact countries in the Baltic is estimated at five to one. What is most disconcerting to Europe is that the Soviet Baltic Fleet is much stronger than NATO opposition warrants, even if Swedish naval forces were added to NATO.

In order to provide against a closing of the straits by the NATO powers, the Soviet Union would have to control the Danish isles, the peninsula of Jutland, and probably the

southern part of Norway. Should the Soviets consider control of the Baltic Approaches desirable, they have at their disposal Soviet, Polish, and East German units specially trained to support such an operation. In the Baltic there is one Soviet and one Polish marine division especially trained for amphibious operations. In addition, East Germany maintains a mobile rifle division also similarly trained. This brings the Warsaw Pact's force to over 10,000 amphibious trained troops. Warsaw Pact amphibious ship capacity includes approximately 80 Soviet, 23 Polish, and eighteen East German landing craft able to land over 5,000 troops at one time. To this should be added a significant number of role on-role off merchant ships capable of follow-up operations. In addition, both the Soviet Union and Poland maintain considerable airborne forces in the Baltic.

The use of Naval Infantry for amphibious assault represents a profound operational change for Soviet troop employment. The Naval Infantry has been of little significance in previous wars and was reportedly disbanded in 1947. However, the reappraisal of Soviet force structure in the early 1960s resulted in their re-institution. This change in offensive structure demonstrates the Soviet attitude that amphibious assaults will play a major role in any future Baltic conflict.

The Soviet Baltic Sea Brigade can be expected to attempt to secure Baltic exits through Denmark and the strategically placed island of Bornholm (see Appendix B). In this operation, they are likely to be assisted by Polish and East German naval forces. Past Warsaw Pact exercises seem to indicate that this is a primary mission of Warsaw Pact Baltic naval and air forces. The Soviets would want to prevent any allied attempt to mine the Danish Straits or impede the movement of Soviet ships and amphibious forces. The territory in the vicinity of the Baltic Sea exits would likely be immediately seized in order to facilitate an eventual linkup of the Northern and Baltic Fleets in the Skagerrak north of Jutland.

NATO seems to envision the Danish Straits as easily closed to Warsaw Pact warships during hostilities. Present transit restrictions provide valuable warning to give away any unusual peacetime deployment of Warsaw Pact vessels that may be in preparation of war (see Appendix D). This warning is a necessary part of NATO's flexible response strategy.

Although NATO controls the strategic narrows, it has relatively little military power to counter a Warsaw Pact invasion of Denmark and, what is more important, to present a credible conventional deterrent. The collective forces of the Baltic Approaches Command (COMBALTAP) are estimated to be outnumbered by about ten to one. Should Baltic defenses

fail to repel a Warsaw Pact advance, sea communications with Norway and the North Cape could be cut effectively collapsing the European northern flank and greatly increasing the threat to Britain and Central Europe.[17]

General Kurt Ramberg, Danish Chief of Staff in 1971, gave a sober assessment of Denmark's blocking position:

> "Denmark would not be able to defend against even the first wave of a conventional attack. Allied reinforcements, therefore, would not have time to come to Denmark's aid before the country was overrun by the enemy."[18]

In the 1970s, Warsaw Pact air and naval activity pushed slowly but deliberately westward. It included Soviet patrols in the Skagerrak, 30 to 40 Warsaw Pact circumnavigations per year of the large Danish island of Zealand, MIG-21 and MIG-25 patrols down to the East German island of Rugen, also used for amphibious exercises, and flights around the Danish island of Bornholm. One exercise included a bomber run, south of Bornholm, during which up to 40 Warsaw Pact bombers at a time aimed for Southern Denmark wheeling at the last minute off Rugen Island in East Germany.[19]

Danish authorities have stepped up their radar surveillance of the Baltic from Bornholm and expressed their anxieties to NATO headquarters, claiming that Warsaw Pact activities in the area are now of such proportions that it

is difficult to distinguish between an exercise and what might be an actual attack.

Denmark believes that the Baltic Sea begins around Malmo, Sweden, close to Copenhagan. But the Soviet Union believes the Baltic starts much further to the northwest around southern Norway. This Soviet view could make Danish defense of the Baltic Approaches incredibly difficult if the Soviets enforced this view by deploying military resources to attain their strategic objectives.

The Baltic-White Sea Canal, built by political prisoners in the 1930s and recently modernized, facilitates transfer of submarines, destroyers, and frigates with a displacement of up to 5200 tons between the Baltic and Northern Fleets.[20] Having thus linked a main operational base with a major repair and construction facility improves Soviet flexibility in the Baltic.

The Baltic Sea Fleet has the largest number of naval aviation bombers and fighters of the four Soviet fleets. It controls an estimated 300 aircraft, including helicopters in the various naval air forces. To support land amphibious operations, more than 700 offensive aircraft are in East Germany, Poland and the Western Military Districts of the Soviet Union. In keeping with the combined arms strategy, the total number of WTO combat aircraft facing European NATO is 7240.[21] Of course not all of these aircraft would be

used in the Baltic, but the number provides some insight into the resources available to Soviet military planners (see Appendix E).

Most significant among these aircraft is the Soviet long range Backfire bomber. Based in East Germany, the Soviet Baltic States, as well as in the western parts of the USSR, these aircraft can easily reach NATO forces and supplies in the Baltic and North Sea. The Backfire bombers' unrefueled combat radius with a five ton bomb load has been estimated at 3,074 nautical miles.[22] This range allows for interdiction of NATO supply lines as far away as the mid-Atlantic.

Particularly well suited for supporting an assault on the straits is the attack helicopter. Afghanistan has provided a good example of the capabilities of the MI-24 HIND and MI-8 HIP. These helicopters could easily be positioned to participate in the Baltic. They provide immediate aerial fire support to ground forces and support airmobile operations. For example, the MI-24 HIND can transport a fully armed squad of troops (eight men) and remain over the fire zone while providing direct fire support with its anti-tank guided missiles (ATGMs) and 24mm cannon.

The overall Warsaw Pact advantage in aircraft, readily available in the Baltic, is estimated at three to one.[23]

For Denmark, as the primary defender of the Baltic Approaches, this air threat is very real. Aircraft attacking Denmark from the southeast, at subsonic speeds, could be over Danish targets in two minutes. Additionally, along with the rest of Europe, Denmark is vulnerable to Soviet SS-4, SS-5, SS-20, and SS-22 intermediate range missiles.

As for land forces, fourteen Warsaw Pact divisions (seven of which are tank divisions with about 9000 men each) and including one airborne division, are deployed in the northern part of East Germany and Poland. Over half of these units would likely be used for an assault on the Baltic Approaches. Another seven divisions from the Western Military Districts of the USSR could also be used in the Baltic on short notice. The major elements of motorized rifle divisions are equipped with amphibious tracked and wheeled armored personnel carriers (APC) and up to 250 tanks. The tank divisions each have approximately 330 tanks. The Warsaw Pact advantage in tanks is estimated at three to one.[24]

A Soviet attack under the guise of a major maritime exercise could move forces into position and completely isolate Norway and the Danish Straits before NATO could respond. NATO's decision-making process during a time of such tension or anticipated attack would have to be

considerably streamlined in order to neutralize the Soviet numerical advantage. This timing is particularly crucial in the Baltic because of the short distanced involved. Delayed decisions to mine the Danish Straits could result in a Soviet naval presence which would make NATO mining operations extremely hazardous. This naval presence would leave the Soviet Fleet unimpeded freedom to complete the encirclement of Sweden, Norway and Finland. The time factor applies equally to decisions concerning deployment of forces, general mobilization and early request for reinforcements.

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III. WARSAW PACT BALTIC MARITIME PARTNERS

The largest non-Soviet navy in the Warsaw Pact belongs to Poland; when combined with the naval forces of the GDR, the Poles provide a significant naval resource capable of supporting Soviet defensive and offensive requirements in the Baltic. However, in order to best understand their contribution, it is important to place the role of non-Soviet navies in proper perspective. The non-Soviet navies of the Warsaw Pact have important missions, but they do not bear the responsibility of the Pact's success or failure in the Baltic, nor do they act as vital instruments of peacetime policy. Both the Polish and East German navies are peripheral forces and part of an alliance that is dominated by a great continental and intercontinental nuclear superpower. Only the Soviet Navy has any global pretensions, which are unrelated to the missions of the other navies of the Warsaw Pact.

East German and Polish military doctrine and forces cannot be intelligently discussed separately from the domestic and foreign socio-political and economic considerations. Further, the East German and Polish navies cannot be sensibly viewed separately from broader Warsaw Pact doctrinal and force posture considerations.

The Soviet view of peace is as important to consider as the Soviet view of war. Poland and East Germany are attuned to political as well as military realities. The USSR has been attentive to the need for the Pact to serve not only as a politically integrating instrument in peacetime but also as a viable and fully integrated body capable of providing a modern conventional military force. A military alliance, dominated by Soviet power, is a necessity for political control of Eastern Europe even in peacetime.

The political reliability of Pact allies and particularly Poland, considering current problems, has always been questionable. Neither Poland nor East Germany can be allowed to have an army or navy designed to serve only the needs of homeland defense. In terms of the Soviet Baltic fleet, Polish and East German forces are nearly always relegated to a supportive and peripheral role. Only the Soviet Navy is tailored in a comprehensive way to serve the needs of an individual nation's political and military doctrine.

In situations short of war, Polish and GDR naval forces are supposed to help cement an alliance weak on political legitimacy. The Soviets must hope that they are indoctrinated, trained and positioned so that they will at best be helpers and at worst be weak opponents if military power must be brought to bear to ensure or restore Soviet-dominated political order. Because the reliability of its

allies is suspect, the Soviet Union has developed a military doctrine that minimizes the options available to those allies. Polish and East German forces have been tied to doctrine and force posture in such a way that the only viable option is to become part of a Soviet "juggernaut", and serve rather than disrupt the lines of communication. Any dissident military or naval forces would be drawn in behind the momentum of the massive Soviet military machine as it moved west.

Neither the Polish Navy nor the East German Navy is designed or disposed for nationalistic political purposes. Instead, it is folded into a Soviet-led and Soviet-dominated military offensive. All non-Soviet Warsaw Pact navies reflect this reality and are not designed to operate very far from their shores. In war they will perform tasks close to home or in the wake of their senior ally, the USSR.

A. WARSAW PACT NAVAL POLICY

Warsaw Pact conventional war-fighting strategy in part calls for the rapid seizure of Western Europe in order to shift the battlefield away from Russian soil. Soviet military planners prepare for the type of offensive battle that would be dominated by the massive Soviet military machine and would thoroughly determine the options for the non-Soviet Warsaw Pact forces. Warsaw Pact Baltic naval strategy requires the rapid seizure and control of the

Danish Straits, securing the coastal flank of the Soviet ground forces and maintaining Warsaw Pact domination of the Baltic Sea.[1]

Only the Soviet Navy is allowed any global presence and it is clearly apparent the East European navies are not built with the endurance necessary to permit them the freedom to range as far as Soviet units. The Polish and GDR navies together comprise less than half of the surface ships available to the Pact in the Baltic, even though those two countries hold the majority of the Pact's Baltic coastline. The Polish and East German navies do provide a specialized capability to the Soviet Union that is particularly important in the Baltic region. As noted previously, the Poles have a marine division and the East Germans a mobilized rifle division, especially trained for amphibious operations, as well as a considerable amphibious ship capacity.

Like all Warsaw Pact naval units in the Baltic, these forces are under the command of the Soviet headquarters in Kaliningrad. Respective Polish and East German headquarters are assigned subordinate level command functions that usually remain separate from mixed formations. Unlike the way in which East European Armies and Air Forces relate to the Soviet Army and Air Force, Polish and East German naval units frequently do not operate along side Soviet forces. Even though East German and Polish officers are trained in

Soviet naval schools, and there are numerous joint exercises, cruises or various other exchanges, the respective navies have relatively little day to day contact in peacetime.

In 1977, Vittorio Gabaglio saw the Polish and East German navies in extremely poor shape.

> "The fact that they have no place in Soviet naval strategy has led to the anomalous situation that these nations which have imposing armies, very large, well-trained air forces and very modern armament, generally, have few ships most of which are obsolete and not particularly well-armed or seaworthy."[2]

Mr. Gabaglio is too critical. Both navies have a role in Soviet naval strategy and have naval forces capable of operations other than coastal defense. At present, it appears that Soviet strategy intends to use these navies only in the Baltic Sea; however, as Soviet naval strategy is modified so might the naval role of its Baltic allies.

B. THE POLISH CONTRIBUTION

Generally, Polish naval forces still remain close to home. They conduct frequent circumnavigations of the large Danish island of Zealand and NATO's most eastern foothold in Bornholm. Although the Warsaw Pact has superiority in all Baltic ships, age and a recession economy have taken their toll on Poland's naval strength.[3]

According to Milan N. Vego: "The Polish Navy's principal peacetime tasks are the surveillance of the

country's coastline, participation in Warsaw Pact exercises, and intelligence-gathering missions in the Baltic and its approaches. Its chief wartime missions would be to conduct joint operations with the Soviet Baltic Fleet and East German Navy, to augment the amphibious lift capability of the other Warsaw Pact forces, to support the army's maritime flank, and to defend the country's coast."[4]

The Polish Navy consists of about 140 combatants, of which 50 are coastal patrol craft; many are obsolescent. As presently composed, the Polish Navy is unbalanced. The ASW capability, unlike the East German Navy's, is negligible and Polish minesweeping capability is ill-suited for shallow Baltic waters. Since 1980, apart from a few landing craft, no new ships have entered the Polish fleet. Many of Poland's major combatants were acquired over the years from the USSR, the last of which was transferred in 1970 when Poland received a SAM Kotlin class destroyer. They have also received several coastal patrol craft and four Whiskey class submarines. The destroyer, the Whiskey class submarines, the major portion of the patrol craft, and eleven of 23 ocean minesweepers are obsolescent and badly in need of replacement (see Appendix F).

It is only fair, however, to mention Poland's indigenous shipbuilding industry, because it greatly contributes to Poland's naval requirements as well as those of the Warsaw

Pact. Notable among ships designed, constructed and employed by Poland are the thirteen Obluze class large patrol boats, and the Polish version of the Soviet Polnochny LCT class, both built in Gdansk. Warsaw Pact sea power has also been enhanced by Poland's ability to produce a large number of amphibious ships and commercial vessels for the USSR. Foremost among these are over thirteen Ropucha class amphibious ships built since 1975. Numerous general purpose repair ships (Amur and Oskol classes), survey ships (Nilolai Zubov, Samara, and Kamenka classes), as well as several other ship types, have been transferred to the USSR in recent years.

The major contribution of the Polish Navy to the Warsaw Pact is the amphibious capability that it possesses. Twenty-three ships, almost one-sixth of the Polish Navy, are devoted to amphibious forces. They presently maintain eight Polnochny LCTs, four Marabut LCMs and fifteen Eichstaden LCAs. The Polnochny is armed with four 30mm twin guns and two 18-barreled 140mm rocket launchers.[5] Each ship is capable of carrying up to six tanks or other large assault vehicles.

However, the aging Polish navy inventory no longer lists any ships for underway replenishment, only five ships for fleet support and nine auxilliary vessels.

Poland's shipbuilding capability is more than adequate to construct larger and better equipped ships. Was the division of mission not assigned by the USSR or the Poles independent of Soviet control, they would no doubt see utility in a more balanced fleet and would be likely not to concentrate on the disproportionally large amphibious force they presently maintain.

C. THE EAST GERMAN CONTRIBUTION

The GDR Navy actually has a few more ships than the Polish Navy, but there are no East German fixed wing naval aircraft. About one-half, or 82 of the 175 ships in the GDR Navy are small coastal patrol craft. They also maintain twelve small amphibious ships with eight underway replenishment and supply ships (see Appendix G). Unlike Poland, the GDR has no present submarine capability. Still it has adequate and improving forces to perform its role in the Baltic.

The peacetime tasks of the East German Navy are coastal surveillance, joint operations with the Soviet Baltic Fleet and Polish naval forces, and intelligence gathering in the western Baltic. In wartime, the East German Navy is expected to counter the superior West German naval forces in the Baltic and assist in maintaining Warsaw Pact control in that sea. Like the Polish Navy, it is expected to support the maritime flank of the conventional land forces, defend

the sea lines of communiciation and provide bases and logistic support for Warsaw pact forces.

Ten years ago the East German Navy began a modernization program which transformed its forces from a purely coastal defense role into one capable of undertaking offensive missions aimed at gaining control of the western Baltic. Its antisubmarine and mine countermeasures capabilities are considerable. Among recent improvements were the acquisition of two Soviet Koni class frigates and the construction of a new class of 1200 ton ASW corvettes, the Parchim. The first Parchim was commissioned on 9 April 81 with the second on 3 September 81.[6] These ships, initially coded "Bal-Com-4" by NATO, resembled the Soviet Grisha class small ASW ships. The main armament on the Parchim class are four 16-inch ASW torpedo tubes and two twelve-tubed ASW rocket launchers. For air defense it carries the 57mm and 30mm dual purpose guns as well as the SA-N-5 "Grail" heat seeking missile.

The new Parchim also has a minelaying and depth charge capability. These ships represent a quantum leap for the East Germans and will eventually replace twelve unsuccessful and obsolescent Hai-lll class combatants which will be turned over to the Coastal Frontier Brigade (GBK). The Parchim program is expected to be completed by 1983 with as many as twelve ships being built. Both the Koni and Parchim

classes mark a major strengthening of the East German Navy's surface combatant force.

On the 16th of June 1981, two East German naval vessels, the training ship Wilhelm Pieck and the salvage vessel Otto von Guericke, made a several week trip out of the Baltic and around Europe. They visited Yugoslavia and the Soviet Union in the Black Sea. On 21 August 1981, both ships were awarded the "Grand Voyage" badge by the East German government. The badge was given to the ships for achievements in performing special tasks during cruises and for "exemplary relations in comradeship-in-arms". This was the first out of area deployment of any East German navy combatant for some time and may be an indication of a change in the East German role and a plan to deploy more frequently outside the Baltic.[7]

One remaining urgent task facing the GDR's fleet is replacement of its aging fifteen Osa I's and eighteen Shershens. They were built in the late 1960s. Recent indications are that at least the Osa's will be modernized to receive the SS-N-2C. Both classes are presently outdated. Also, the East German naval air arm presently consists of only eight Mi-14 land-based ASW helicopters and there is presently no shipboard capability. It is likely that the East German naval air role will increase as modernization continues.

Like Poland, East Germany has an adequate ship building capability. All the combatants, except 38 ex-Soviet vessels, were built in East Germany and about 75 percent of them entered service in the last ten years. They are presently building the small Libelle-class torpedo boats and the Frosch-class LSMs. East German shipyards do not share the large capacity of the Poles but their facilities are more than sufficient to continue the present pace of the East German modernization program. It is probable that East Germany, if the USSR were disposed to tolerate longer reins on its German ally, could build and maintain a more formidable navy.

D. JOINT OPERATIONS

Joint exercises between Poland, East Germany and the USSR have been conducted regularly since 1957. This cooperation has significantly increased in the last decade and the exercises have steadily moved westward. As a rule, Soviet naval officers have been in command and the apparent purpose is to achieve uniform tactics and operations. Recent emphasis in these exercises is on amphibious assault and landing operations. Here the Polish and East German navies provide important elements in terms of both ships and amphibious assault forces. However, even during the OKEAN exercises of 1970 and 1975, Polish and East German forces remained in the Baltic. The Baltic amphibious manuevers

have gradually moved from Soviet to Polish, and with OKEAN 75, to East German waters.

Both Poland and East Germany participate regularly in an annually held exercise dubbed "Defense of the Homeland" off the East German island of Rugen. In July 1980, for the first time joint manuevers were conducted in the North Sea. This was the first assignment of Polish and East German forces outside Baltic waters.

In September 1981 at the height of the Polish troubles with Solidarity, the USSR held ZAPAD 81 (West 81)in the Baltic Sea. ZAPAD was a joint service ground-air-naval exercise involving 100,000 troops of the ground forces and some 80 ships from all four Soviet fleets. Never before had ships assigned to all four fleets been gathered together in a small area for a single naval exercise. The largest scale peacetime amphibious exercise the Soviets have ever conducted was part of ZAPAD 81. However, not a single unit from either Poland or East Germany was involved in this exercise. ZAPAD was a clear reminder of the dominating power of Soviet naval forces and the subordinate position of the comparatively small Warsaw Pact navies as well as an indication of the lack of Soviet trust in their allies to participate in such a major command and control exercise. (See Appendix H.)

Although the Polish and East German navies are fully incorporated into the first echelon of Warsaw Pact organization and would be immediately involved in any conflict in Europe, Soviet strategy does not currently call for a separate attack against NATO on one of the flanks. Presently, Warsaw Pact maritime operations against the flanks are considered vital but thoroughly integrated into a complex strategy for subduing and controlling Europe. Moreover, Soviet military strategists envision a coordinated attack on all fronts as part of a major war between the two blocs. Warsaw Pact navies are not intended to operated in a limited war, either in terms of geography or in terms of weapons employed.[8] Dominating sea lines of communications to isolate Europe from American and the Middle East, controlling ingress and egress from the Baltic, and supporting the westward advance of Warsaw Pact ground forces are the major strategic missions of the Baltic Pact navies.

Ongoing production programs in the Soviet Navy indicate that emphasis is being placed on larger, better equipped ships with reloadable weapons systems and longer on station times. It seems reasonable to assume that as the Soviet Navy modernizes, so too will the other navies of the Warsaw Pact, but on a smaller scale. Despite many deficiencies that exist in their respective fleets, the Polish and East German naval threat must be taken seriously by NATO. As

their effectiveness and capabilities expand, their role in a Baltic confrontation could also expand. By their very existence and growing presence they play an important role in enhancing Soviet naval capabilities in the Baltic.

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IV. BALTIC NEUTRALS

A. SWEDEN

Flanked by NATO and Soviet-aligned Finland, Sweden has a policy of armed neutrality and non-alignment between great power blocs. Because its neutrality is supported by a strong defense, Sweden holds the position as the balancing force in the North. In the past, this position has successfully allowed Sweden to avoid two World Wars and still maintain one of the highest standards of living in the world. They have repeatedly allayed Soviet suspicions and constrained Soviet advances in the north while at the same time attempting to reduce the Soviet pressure on Finland.

Frequently acting as a Nordic conscience, Sweden's behavior as an international actor has resulted in a growing tension between basic values and attitudes. There is a strong element of global internationalism existing side by side with parochial narrowness and isolationism. Sweden appears drawn between an emotional and idealistic solidarity with third world countries and the desire to avoid any relationships or organizations which might pull Sweden closer to East or West. The Swedish Social Democratic Party Congress in 1975 supported the idea that the real security problem in the world was the desperate poverty of the

underdeveloped world; hence defense appropriations should be transferred to development aid.

None the less, the policy of armed neutrality has provided Sweden with a viable national defense as a corollary to non-alignment and neutrality. From a military point of view, Sweden's defense, in one specific sense, has made it the most important country in Northern Europe during the last decade. The military strength of a country consists partly of its own strength and partly of the borrowed strength of its allies. The logic of non-alignment and neutrality is that Sweden cannot have access to borrowed strength as a peacetime deterrent.

Denmark and Norway build much of their security on borrowed strength. They assign their own resources to specific tasks in the common defense of their own countries; however, it is the borrowed strength of the alliance membership that provides the deterrent effect on their military defense. It has often been argued that a neutral, well-defended Sweden contributes to the credibility of the Norwegian defense, for any direct overland attack requires passage through Swedish territory. It is actually more a matter of mutual dependence that benefits both NATO and Sweden. The NATO-Swedish security linkage is based on strong Swedish defense, increased Norwegian security, credible NATO relief and a stronger Nordic Balance, hence

greater security for Sweden, provided that the goal of the attacker is beyond Sweden.

Sweden has historically maintained a large well-equipped military, and has consistently allocated 3.5 percent of its GNP annually for defense. Without the presence of Swedish armed forces, in both the north and south, neither Denmark nor Norway could tolerate their present restrictions on basing and pre-positioning of men and equipment on their territories during peacetime. Any change in these policies would have a destabilizing effect on the Nordic Balance and likely bring increased Soviet pressure to bear on Finland. In the past, Sweden has been able to successfully juggle its national policies to maintain a balance yet avoid offical ties with either power bloc.

Recent years have seen Sweden's position threatened by several factors: the increasing importance of the Murmansk base for Soviet strategic forces; the growth and outward movement of the Soviet Navy (e.g., the Karlskrona incident); fishing and oil rights disputes between Sweden and the Soviet Union; the increasing burden of defense on the Swedish economy; and the Norwegian perception of political and military isolation in the far North.

It is this Norwegian factor that in 1980 resulted in both Sweden and Finland stationing additional troops in the North. Norwegian nervousness had resulted in increased NATO

military exercises and a September 1980 U.S.-Norwegian agreement on the pre-positioning of military equipment and construction of depots in the province of Trondelag, 600 miles south of Troms.[1] Sweden viewed these moves as counterproductive to the Nordic Balance because of the critical importance of the Murmansk base to the Soviet Union. However, they understood that a viable attack against Norway would come through Swedish territory, territory Sweden intended to defend. The placement of Swedish and Finnish troops to a degree allayed both the Norwegian sense of isolation and the Soviet anxieties about NATO reinforcements. Thus, NATO's interests were satisfied in two respects by the Neutrals, and Nordic Balance was restored. There has been a tendency for the West to dismiss the contribution of the Swedish military, yet they have frequently provided political and military balancing that has greatly benefited NATO, perhaps even more than if Sweden has been a member of the alliance.

In any Baltic naval conflict Sweden's capability to deny the use of its territorial waters and airspace to the Warsaw Pact will effectively assist NATO planners in best allocating their limited resources. For this reason, Swedish maritime participation is esssential and an evaluation of their capabilities required.

The longest coast in the Baltic belongs to Sweden, which extends for about 2,500nm. It runs roughly in a straight line from the far northern corner of the Gulf of Bothnia to Karlskrona in the south. The southern part of Sweden's coast is sharply triangular. The Soviet controlled Baltic coast forms a semicircle. In any conflict between the Soviet Union and Sweden, the latter's coast would offer better opportunities for the employment of naval forces and aviation, due to a longer base of operations. Sweden's coast would allow a rapid shifting of forces along its longitudinal axis and offer much shorter lines of operation for the Swedish fleet. Aside from this one advantage, such a long coastline is an extremely difficult one to guard. Over much of the length it is covered with hundreds of islands and water depths that vary considerably from just a few feet to over 190 feet in places. Furthermore, the factors affecting sound propagation in water and a varying type of sea bed create enormous problems for effective anti-submarine operations. It is mainly because of this geography that Sweden has created a defense in depth similar to the Danish and West German strategies which are discussed in a later chapter.

1. Sweden's Maritime Defense Strategy

The Swedish Navy is divided into two arms, the Naval Fleet and the Coast Artillery (see Appendix I). Both

operate in close cooperation and are built around the Government's major requirement of preventing an agressor, invading by sea, from establishing himself on Swedish territory. The Navy provides four major elements of defense (light surface units, underwater units, mine warfare units, and the naval air arm) while Coast Artillery provides both fixed and mobile artillery units.[2]

The Swedish defensive system is designed to come into operation as far from the Swedish coast as possible, and is based on a series of barriers. The outermost barrier comprises attack aircraft of the Swedish Air Force and submarines of the Navy. Traditionally, Sweden's enemies have attacked from the sea and Sweden's present leadership views the southern coast region as the most critical to defend. Thirty percent of the army and three of four armored brigades are located in Military Command South. The Navy is concentrated in the 500km archipelago from the Bothnia bottleneck to Karlskrona. The Air Force, although more spread out and responsible for the air defense of all of Sweden, has much of its force stationed in the south. The JA-37 Viggen intercepter/attack squadrons are also oriented toward maritime attack.[3]

Sweden fully expects any invasion to be stopped at sea. However, the role of the Air Force and Navy is not to sink or destroy the opposing force but rather to abort the

invasion. Swedish defense relies on the timely emplacement and protection of elaborate minefields. Once the mines are in place (many are simply activated), the country is effectively shielded. The attack submarines and Viggens help obtain the time for mine emplacement.

The fast patrol boat navy and Coast Artillery orient themselves around these mine obstacles. Enemy warships are not the prime targets. Instead, the Swedish Navy plans to concentrate on soft targets like mine sweepers and troop transports. Enemy warships would be avoided if possible. This strategy accomplishes the mission of halting an attack while simultaneously reducing the size of the weapon required. In a sea attack, the fast patrol boats and Viggen aircraft work together. The FPBs force the enemy to place naval escorts forward to protect the minesweepers. But in doing so, unless a large fleet is present, he leaves a less defended target for the Viggens.

This scheme is designed to effectively protect the Swedish coast from the Aland Islands to Karlskrona and the west coast to Goteborg (see Appendix B). The Kattegat is protected by NATO and the Gulf of Bothnia will be closed in war by a Swedish minefield at the Alands.

2. Swedish Baltic Considerations

In 1979, Sweden made the decision to increase the width of its territorial waters from four to twelve nautical

miles. This increased Swedish territorial jurisdiction by about 10 percent and created additional responsibility for the Navy. The problem of maintaining surveillance over this territory is not so serious from a surface point of view because units from the navy and coast guard work together. The problem is underwater. Sweden does not presently have sufficient surveillance forces, either submarines or maritime patrol aircraft (MPA), to cover the underwater portion of its territory.

In recent years there have been a number of territorial violations by foreign powers, both in the air and at sea, some by accident, others not. The most widely publicized was the Soviet submarine 137 which ran ashore near Karlskrona naval base in the autumn of 1981. A more recent incident was in October 1982 when Swedish forces unsuccessfully attempted to bring an unknown contact to the surface while in violation of Swedish territory. These two particular incidents and the international attention they drew, caused Swedish authorities to reevaluate their anti-submarine warfare (ASW) capabilities.

New Swedish regulations will go into effect on July 1, 1983, in which foreign submarines will be forced to surface and escorted to a berth for identification and further examination. For this purpose, new weapons are being developed that will provide the Swedish Navy with the

capability to damage or disable a submarine sufficiently to force it to the surface.

Sweden's Prime Minister, Olof Palme, officially reminded the world that the Swedish government can give the armed forces the order to sink a foreign submarine in Swedish territorial waters.[4] On April 26, 1983, Sweden officially warned the Kremlin that it would destroy the next Soviet submarine that violates Swedish waters.[5] In order to make this threat credible, the Swedes have decided to refit additional search and rescue helicopters with ASW equipment and have ordered new missile boats with an ASW mission capability.[6]

As part of the 1982 Defense Decision, the most recent defense five year plan, 200 million Swedish Crowns were earmarked for anti-submarine warfare. This is over and above that earlier planned for. Though this figure breaks down to only 40 million Crowns a year, it still is a significant move to improve Sweden's ability to protect the underwater portion of its territory, a capability which the last few years have proven necessary.

Aside from the increased incursions on Swedish territory by the Soviet Union, there remains another source of continual contention between the two governments. Since 1969, negotiations have been intermittently conducted to settle a boundary dispute in the Baltic. (Talks between

Norway and the Soviet Union on the demarcation line in the Barents Sea have not yet led to a fixed boundary either.) The dispute centers around fishing and oil rights in a 13,500 square km region east of the Swedish island of Gotland (see Appendix J). The last attempt to settle the dispute was a politically unpopular Swedish compromise proposal that involved small Swedish concessions on their original position.[7] This proposal did not settle the dispute and has so far been rejected by the Kremlin. At the time of this writing, negotiations have not been resumed.

Swedish defense is the most important internal Nordic military factor. How strong Swedish defense must be to fulfill its national and Nordic role is not easily answered. After two years of inadequate defense spending, it appears that the growing Soviet threat has encouraged the Swedish government to institute a three-pronged development and acquisition program in fiscal year 1984. The program will address the undersea threat which has already been discussed; the northern threat which will involve the relocation of a JA-37 Viggen intercepter squadron to Lulea in northern Sweden, as well as upgrading the air defense facilities in the area; and the aerial threat from across the Baltic which will incorporate a new air-to-air missile for the Viggen, a contract for the first 30 of a planned 140

JAS-39 Gripen multirole combat aircraft, and a new low level surveillance radar system.[8]

The proposed 1983-1984 defense budget totals $2.85 billion and includes about $280 million for air force equipment procurement, excluding the JAS-39 Gripen for which $600 million has already been allocated. The budget will not be approved by the Swedish parliament until late 1983, but it is expected to pass without significant change. The Social Democrats, who came to power in 1982, are not likely to change long standing defense considerations.[9]

In addition to the defense budget, the government is proposing to allocate $118 million for civil defense and $73 million for stockpiling critical materials.[10]

It is certainly in NATO's best interest that Swedish defenses not deteriorate. Both Danish and Norwegian defense plans rely on Sweden being capable to maintain control of its territorial waters and air space. Just as Finland provides Sweden with a Soviet buffer, so in turn Sweden provides a type of strategic depth for NATO. Any change in Sweden's defense capability would affect Nordic security as both power blocs might attempt to fill the resulting void.

For Finland's eastern-oriented, confidence-building policy, it is important that Sweden remain non-aligned. For this reason, Swedish defense might well be of greater importance for Finland's security than Finland's own defense.

The preservation of a genuinely Nordic role for Finland is dependent on a Finnish defense strong enough that the Soviet Union does not raise demands for direct participation in it.

B. FINLAND

1. Finnish-Soviet Relations

The birthplace of "Finlandization" has not always been as closely tied to the Soviet Union as it is now. One of the five traditionally Scandinavian states, Finland had, until the end of World War II, always looked to the West for its most important political and economic cooperation. However, after suffering defeat twice at the hands of the Soviets, survival required a different political outlook. It is important to understand the relationship that has developed between the USSR and Finland, so a brief historical perspective is presented.

The basis of Finnish foreign policy since World War II has been neutrality, but a neutrality tinged with the realization of the proximity of Soviet power. The Finnish position at the end of the war was that of a defeated enemy of a country which had emerged from the war as the most powerful state in Europe. The Finnish position was untenable. Economically weakened by the war and faced with the Soviet Union on its border, some foresaw the eventual annexation of Finland. To the credit of the Finnish leadership, Finland was able to avoid this fate. The

responsibility for this accomplishment lies primarily with Juho K. Paasikivi, the architect of Finland's postwar foreign policy. The foundation for this policy was a new orientation toward the Soviet Union. Paasikivi insisted that the reality of Finland's position vis à vis the Soviet Union required that the Finns change their old, hostile attitudes toward the Russians and instead work toward friendship and cooperation in order to establish "good and faithful relations with our great neighbor."[11]

Although Paasikivi had long stressed the necessity of coming to terms with the Soviet Union, Soviet trust in him was not so great that they wanted to leave any doubt as to the future of Finnish foreign policy. The Soviet Union wanted to have a document which placed Soviet-Finnish relations on a legal basis. In February 1948, the Soviets approached Finland suggesting a treaty of mutual assistance. Despite the fear that the Soviets intended to subjugate Finland, President Paasikivi agreed to negotiate. What resulted was a very different treaty from that originally envisioned by the Soviets.

The Soviet-Finnish Treaty of Friendship, Cooperation and Mutual Assistance has been the legal basis for Finnish-Soviet relations since its signing in 1948. It is a concise, explicit document. While recognizing Finland's desire to "remain outside the conflicting interests of the

Great Powers", it goes on to pledge that should Finland or the Soviet Union be attacked through Finnish territory by Germany or an ally of Germany, Finland will fight to repel the attack within its territory and, if necessary, with the assistance of, or jointly with, the Soviets. Such assistance must be mutually agreed upon. If a situation arises in which an attack appears likely, the parties are bound to confer with each other on necessary action. The determination of whether or not a threat exists is also to be mutual.[12]

Some analysts of Soviet foreign policy regard the treaty as the harbinger of "Finlandization" destined to envelope the rest of Scandinavia. The bottom line is that the Soviets demanded an agreement in which Finland's foreign policy would not clash with the security interests of the USSR. In reality, Finland was compelled to sign away part of its sovereignty. Time and again the Soviets have attempted to influence or interfere in Finnish affairs.

Blatant Soviet intervention in Finnish foreign policy has been less noticeable in recent years. It seems that the Finns have become adept at predicting Soviet preferences and have attempted to forestall Soviet pressure by acting in a favorable way. The Finnish government has consistently made a demonstrative show of support for Soviet policies when they are in agreement, while refraining from

public disagreement. This has been consistent over time as evidenced by the government's reaction to Soviet interventions in Hungary (1956), Czechoslovakia (1968) and, most recently, Afghanistan (1979). On December 31, 1979 the Finnish Foreign Minister issued a mild statement which pointed out Finland's desire to see the situation in Afghanistan return to normal as soon as possible and noted that the Soviet government had assured Finland that Soviet troops would be withdrawn as soon as the situation allowed.[13] Finland has also been quick to follow the Soviet lead in criticizing United States' actions, e.g., proposal for a NATO multilateral atomic force (1962-1963), Dominican Republic (1965), Vietnam (1965-1973), Chile (1973) and the planned deployment of enhanced radiation weapons in Europe (1977).[14]

Finland avoids alliances with all countries to the extent possible in order to legitimize its longstanding claim to neutrality. The 1948 treaty has consistently been interpreted by the Finns in the strictest sense possible, despite Soviet attempts to force a more general interpretation which would result in closer Finnish-Soviet ties. This means that Finland is required to act only if its neutrality is violated. This could be expected to elicit a response from any state, regardless of its treaty status.

Finland has consistently refused to participate in joint military exercises with the Soviet Union.

The Soviet Union has often managed to influence the Finnish government in its makeup as well as its policy through government statements and use of the media. The first indication of a Soviet response or policy initiative is frequently expressed through Pravda or Izvestia.[15] An example of this was the Soviet press treatment of the Finnish Social Democrats just prior to the 1966 elections. The Social Democrats had been unacceptable to the Soviet Union since World War II. However, in 1966 their prospects for electoral success were good. The Soviets began a press campaign on February 1965 designed, not to keep the Social Democrats out of government, but to exact promises concerning their adherence to the current foreign policy line and loyalty to President Kekkonen. This resulted in the inclusion of Communists in the government after hints in Izvestia that this would make the Social Democrats acceptable.[16] By 1981, after years of Social Democratic protestation concerning their loyalty and friendship toward the Soviet Union, Moscow's trust had increased to the point that it supported the Finnish choice to succeed President Kekkonen: Mauno Koivisto, a Social Democrat.[16] After his accession, President Koivisto reaffirmed Finland's neutrality and friendly relations with the Soviet Union and

called for extension of the 1948 treaty past its already extended expiration in 1990.[18]

2. Finland's Baltic Contribution

The Finnish Navy consists primarily of fast patrol craft, plus two corvettes, three minelayers, and six inshore minesweepers. By the terms of the 1947 peace treaty, Finland is not allowed to possess a Navy larger than 4,500 men and totaling more than 10,000 tons. Also, Finnish ships were prohibited from carrying offensive weapons. However, in the 1960s the ban on missiles was lifted.[19]

The Finnish Navy is a typical coastal force. Although designed for defense, its capability to successfully defend the country's coast appears to be inadequate. Its principal wartime missions would be defense against amphibious attack, defensive minelaying, transportation of troops and material between the mainland coast and offshore islands, and surveillance of the coast. In 1980, the Finnish Navy consisted of 50 combatants plus two dozen naval auxiliaries. A separate coast guard, under the Ministry of the Interior, comprised five large and some 106 small coastal craft. It is unlikely that the Finnish Navy would play any role in a Baltic conflict other than national defense.[20]

Finland's role in the Baltic rests on its ability to continue to hold an active Nordic position in the region's

balance between East and West and not succumb to Soviet domination. Finland's position is similar to Sweden's in that any change in Finland's political position could have a destabilizing effect on the security of the region.

While Finnish armed forces pose little threat to the Soviet Union, they are sufficiently strong and well trained to make a conventional attack somewhat costly for the Soviets. Finland, in Russian hands, would provide the Soviets with an occupied Nordic buffer state as a northern extension of the Warsaw Pact eastern European alignment. However, as long as Finland continues to take no action that could be construed as hostile to Soviet interests, the Soviets need not risk the damage to Western European detente and the Nordic Balance that would result from such an occupation.

Finland has grown used to interpreting, and even to anticipating, signals from the USSR and to finding verbal and symbolic concessions which without infringing on the essence of its freedom, reassures the Soviets. Additionally, the USSR does not always seem to be of one mind in its policy towards Finland. Time and again the policy seems to be the outcome of "bureaucratic politics", perhaps some in-fighting, indecision and even confusion until the Kremlin itself is able to give its attention to this small and altogether inoffensive neighbor.

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PART TWO

THE BALTIC AND NATO'S DEFENSIVE RESPONSE

The strength of the Atlantic Allies centers on the commitment of the allies to consider any armed attack on a single member as an attack on all members. This commitment must be central to any aggressor's planning. It is here that NATO's deterrent begins. Whereas the Warsaw Pact might be willing to assume the risks of a localized attack on an isolated, non-allied country, it has so far been unwilling to test the combined strength of the alliance.

Danish officials appear to anticipate three potential levels of Warsaw Pact aggression: a general attack against NATO; a limited attack against Denmark or parts of the country; and political pressure against the Danish government through limited employment or threat of employment of military forces.

On the Northern Flank, because of the great distances and the absence of allied troops, the responsibility for meeting a Warsaw Pact first strike rests with national forces. These forces must be capable of an initial defense and holding vital ports and airfields until reinforcements can arrive. Denmark, and its NATO partner, the Federal Republic of Germany (FRG), are responsible for defending the Baltic Approaches. The combined maritime capability of these two nations must close the gates to the Baltic before Warsaw Pact forces can move to control the Approaches in the initial stage of conflict.

In line with NATO's flexible response and the strategy of forward defense, it is the mission of Allied Command Baltic Approaches (COMBALTAP) under the direction of CINCNORTH, to plan for the defense of the territories of Denmark, the northern part of West Germany, and the adjacent waters known as the Baltic Approaches. In wartime, the forces of COMBALTAP will attempt to arrest and neutralize an enemy offensive as early as possible. The chance that such an attempt will be successful is greatly enhanced the further off that the response can be achieved from friendly coasts and vital sea lanes.

Like other NATO operational strategies, Baltic security depends heavily on sufficient warning time and the will to use it, to allow for mobilization and reinforcement. Warsaw Pact forces can be positioned only minutes away under the guise of naval exercises, making allied units particularly vulnerable to a first strike. It is possible to envision a scenario where warning time is non-existent or at least considerably reduced, thereby demanding timely political and military decisions.

On the military side, the people who will make those imperative decisions are part of Headquarters Allied Forces Baltic Approaches, one of the most recently formed commands in NATO. It was established on 8 January 1962 in Karup, Denmark and activated on 1 July 1962. The Commander Allied

Forces Baltic Approaches is always Danish, the Deputy COMBALTAP is German, and the Chief of Staff Danish.

The area covered by this command comprises all of Denmark and Schleswig-Holstein, including Hamburg north of the Elbe River and the adjacent sea areas. Guarding the gates of the Baltic, it reaches from the Skagen to the Elbe and from the island of Bornholm to the North Sea at the Elbe mouth (see Appendices A and B).

COMBALTAP has four subordinate commanders:

1) COMLANDJUT is responsible for the defense of Schleswig-Holstein, Jutland and Funen. He has operational command in time of war of the German 6th Armored Infantry Division and the Danish Jutland Division. Each consists of three brigades. This position alternates between Danish and German commanders with the Chief of Staff the opposite nationality.

2) COMLANDZEALAND is responsible for defense of the Danish islands east of the Great Belt including Bornholm. He has a total of two Brigades and one reduced brigade on Bornholm. However, after mobilization of the Danish home guard, this force will have an additional five brigades. This position is always held by a Dane.

3) COMAIRBALTAP has operational command in time of war of the entire Danish Air Force and the German Air Force units stationed in Schleswig-Holstein. There are four

tactical fighter-bomber squadrons and one reconnaissance squadron in northern Germany. However, air control of those units comes under the control of CINCENT. COMAIRBALTAP leadership alternates in the same fashion as that of COMLANDJUT.

4) COMNAVBALTAP has, with a few exceptions, all operational Danish and German naval forces (including the German Naval Air Arm) under his operational command in time of war. This position also alternates between German and Danish leadership.[1]

From this command structure it is clear that Danish and German forces are closely integrated in the area of Baltic defenses. The territorial integrity of both nations depends on this cooperation.

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[1]Chief of Defense, Welcome to Denmark, (Copenhagen: Danish Information Service, 1977), p. 18.

V. DENMARK: GATEKEEPER OF THE BALTIC

A. WHY NATO?

For more than one hundard years, Denmark's position has been that of a small power with limited materials and human resources. Its territory is extremely hard to defend and in an area dominated by Great Powers. After the war in 1864, in which the Danes were badly defeated by Germany (the annexation of southern Jutland was not resolved until 1920), the Danish government adopted a policy of isolated neutrality. This policy appeared to work for a while, and kept Denmark out of the First World War. Although many Conservatives felt strongly that states should have the capability to defend their own sovereignty, the larger political parties of the Social Democrats and the Liberals believed that disarmament would best serve Danish interests and prove that Denmark had no intentions of military action.

Hitler's rise to power in the late 1930s caused considerable alarm in Denmark. At that time, Danish defense forces were small and very poorly equipped. The 1937 Defense Act signaled a change in Danish policy.[1] The Danish government feared the rising power to the south and began to build the framework necessary to improve its defense capabilities. However, few of the 1937 defense improvements

were ever realized. In April 1940, Germany quickly invaded and occupied Denmark. For the next five years Danish underground resistance forces battled the Nazis, but with limited success. This stubborn resistance did, however, greatly contribute to a rise of new Danish nationalism. In 1945, when Denmark was liberated, all major parties were at last in agreement; Danish defense policy warranted reconsideration in terms of Danish security interests.

The Danish government was faced with three options: 1) it could maintain a policy of neutrality with a low-posture appearance and non-engagement in international power politics; 2) it could build a significant defense force with the capability of defending its own territory; 3) it could seek an alignment with other powers.

The onset of the Cold War, and especially its aggravation in the spring of 1948, convinced the Danish government of the necessity of finding an alternative to the security policy it had followed before the war. Neutrality was no longer considered a sufficient foundation for security. The first option was ruled out. Denmark had been making efforts in 1948-1949 to obtain increased security from the United States and Great Britain through agreements for external guarantees. The Danish government had to start from scratch in 1945 to rebuild its defense forces, and little had been accomplished by 1948. There were strict limitations on how

much Danish resources could be channeled into a rapid military build-up in competition with civilian needs.

The Danes asked for quite extensive American military supplies in the spring of 1948 and indicated their wish to receive security guarantees from the West.[2] The problem with this policy was that the United States demanded military commitments. This was a condition for the security guarantees as well as the shipping of armaments in large quantities and on favorable terms. In addition, enormous economic requirements and manpower commitments required to establish a defense force strong enough to defend far reaching Danish territory was not thought feasible.

The real choice, therefore, was one of alignment. Several options available were: 1) membership in the Brussels Pact of March 17, 1948; 2) the creation of a Scandinavian Defense Union (SDU); 3) membership in the Atlantic Pact.

B. A DANISH CHOICE

The Danes appear to have been more affected than either Sweden or Norway by the threats of the Soviet Union. In January and February of 1948, the Soviet press launched a strongly worded anti-alliance campaign against Denmark.[3] They warned against any type of alignment that would bring Denmark or Scandinavia closer to the West. The Soviets preferred a policy of neutrality and non-alignment which,

they hoped, would leave Denmark vulnerable to their sphere of influence. In addition, Denmark's geographical proximity to the Soviet military center of gravity as well as to the most likely war zone in the event of great power conflict, gave her an exposed position. The Danish government strongly preferred the formation of a Nordic organization, which it felt represented less of a threat to the Soviet Union, but Norwegian and Swedish security disagreements prevented its development. The time had come to make the Atlantic option a political reality.

There was considerable doubt within the government as to whether the Altantic Pact could fulfill the security needs of Denmark. It was repeatedly stressed that primary to Denmark, was a guarantee of swift and effective aid in the event of concrete military aggression. It is doubtful whether the Western Powers would be able to intervene before it was too late. They also feared the risk of too close a relationship with the West and the risk of being too involved in distant conflicts, or of being automatically and instantaneously attacked by the Soviet Union in the event of a general war. However, the Atlantic Pact offered a position more consistent with Danish demands for an ideal security solution than did any remaining option.

Because of American interests in Greenland, Denmark had an assurance of being accepted as a member of the Atlantic

Pact. Since 1941, the United States has had military bases in Greenland, and in April 1948, the Danish government gave assurance that this cooperation would continue.

The strategic position of Denmark was also a consideration. In 1948, the primary bases for Soviet submarines were in the Baltic Sea. In order for the submarines to enter the Altantic, they had to pass through the Sound or the Belts, and further on the Skagerrak, where the northern coast of Jutland and the southern part of Norway constitute the last barrier to the North Sea and the Atlantic. The possession or control of Danish territory would consequently be important to the Soviet Union as well as Western sea powers.

On April 4, 1949, Mr. Gustav Rasmussen, the Danish Foreign Minister, signed the North Atlantic Treaty with eleven other representatives of the Western World. It is interesting to note that every parliamentary election and opinion poll since 1949 has indicated that a majority of the people continue to favor NATO membership.[4] Denmark may not be content with all the policies of NATO, but on the whole, Danish politicians are convinced that NATO strikes the optimal balance between military security and freedom to conduct an independent foreign policy.

C. NATO'S "CORK IN THE BOTTLE"

Denmark, with the peninsula of Jutland and a total of some 450 islands (including Zealand, Funen and Bornholm as the largest ones), covers 43,000 sq. km with a population of about five million people, 40 percent of whom live on the eastern part of Zealand around Copenhagen. Because the Danish Straits divide the territory basically into three parts, maintaining the integrity of Denmark is directly related to control of these Straits.

The Copenhagan Treaty of 1857 and the Geneva Convention of 1958 stated that Denmark in a time of peace could not prevent or interfere with the innocent passage of any ship, including warships. However, in accordance with current International Law, Denmark does exercise certain restrictions on warships when they are in Danish waters (see Appendix D).

The Straits provide the only natural entrance and exist to the Baltic and it is clearly to the advantage of NATO that this access is controlled by a member nation.

The Soviets control the White Sea Canal, which connects the forces of the Northern Fleet with the Baltic.[5] However, as World War II demonstrated, this long canal is extremely vulnerable to air attacks. The Nord-Ostsee Canal, or Kiel Canal, runs across northern Germany from the North Sea port of Brunsbuttel Koog to Kiel on the Baltic. This canal is

rather short in comparison, only 61 miles long, and the transit can be accomplished in about ten hours. This saves about two days sailing time around the Danish peninsula. Still, with a width of about 100 yards and minimum depth of 34 feet, it shares many of the limitations of the White Sea Canal. It is highly vulnerable to enemy air attack and mining; it requires a slow, exposed transit; and it imposes restrictions on the size of the shipping that it can support.[6]

When Denmark joined NATO, the largest Soviet fleet was located in the Baltic. As noted in Chapter II, this is not the case today. Soviet maritime expansion has resulted in a shift to the Arctic. Only in the north can Soviet ships avoid passing a natural choke point in order to gain access to the open sea.

Because of this shift in forces, some NATO strategists have questioned the importance of Denmark's position, and at first glance this may appear justified. However, in addition to the Danish importance as the "cork" which could seal the Baltic in time of war, Denmark also serves as a buffer region which protects both southern Norway and the German heartland.

As a member of the Alliance, Denmark provides an important contribution by indirectly bolstering the defenses of southern Norway. The Danes have enabled the Norwegian

defense forces to concentrate on the north, where Norway shares a common border with the Soviet Union, and on the rugged, sparsely populated coastal region.

The large amphibious forces of Warsaw Pact would first pass by Danish islands or through the Danish mainland in order to launch an attack on Germany. Denmark also provides an important bridge between Norway and NATO countries of the Central Front through which supplies, communications and reinforcements can be transported.

The mission of Danish defense forces, from a NATO standpoint, is to repel intrusions on Danish territory, maintain the security of reinforcement positions, and more strategically important, control the entrance to the Baltic. Conservative Danish politicians (and recently NATO planners) have begun to question the capability of Danish units to accomplish that mission.

Traditional Danish military forces, designed to resist such an invasion, have been sadly reduced in the last decade. Denmark has become heavily dependent on external reinforcements for even the initial defense. In 1953, the Danish government decided against allowing any foreign bases or military units on Danish soil during peace time. In 1957, it also decided to forbid placement of nuclear weapons within Danish territory, including Greenland. With a country as geographically susceptible to conventional attack

as Denmark, many analysts have been quick to point out that an attack is less likely if forces are in place, ready and able to prevent a quick Soviet military success. These Danish decisions have created a large obstacle to defense planners. Without the pre-positioning of allied forces or a strong internal defense force, Denmark's security has come to rest heavily on its ability to recognize quickly and respond to external threats.

1. Defense Policy and Force Levels

Since joining the Alliance, Danish defense strategy has been firmly based on the policy of NATO. The Danish government views the primary aim of NATO as that of deterring war. To achieve this aim, NATO must be capable of making it clear to an aggressor that any attack would be met by a strong defense, and might initiate a sequence of events which would involve risks to the aggressor that would be unacceptable when compared to any advantage he might gain.

Danish Defense Forces in their present condition do not present a viable defensive appearance. Denmark is torn between trying to present a strong defensive capability and yet not appearing as a threat to the security of Warsaw Pact. Instead of committing the economic resources required to maintain and strengthen its standing forces, the Defense Agreement of 1973 caused Denmark to adopt a concept of "Total Defense"[7] in which nearly every able bodied man and

woman has a wartime role. The standing Armed Forces of Denmark were reduced, and it became necessary to increase their reliance on mobilization. To balance this, an increased number of regulars vice conscripts were required. This agreement resulted in a somewhat unconventional military structure.

Because all of Denmark's forces are dedicated to protecting Danish territory and thereby the Baltic Approaches, it is important to discuss not only the maritime capabilities but also the Army and Air Force contribution.

The Danish Peacetime Army is composed of: 1) training force of 5,750 (conscripts with nine months of National Service); 2) administrative and training units of 7,250; 3) the Standing Force comprised of long term regulars of 8,500 and varied amounts of UN Forces which hope to bring the total near 22,000. In wartime, when fully mobilized, this force would total 145,000 personnel with the addition of the Augmentation Force and the Reserve and Home Guard Force, to which should be added approximately 12,000 men held in Personnel Replacement Depots.[8] The Augmentation Force is comprised of conscripts and regulars still serving or having been released from service, who are under obligation to report at very short notice. The Danish Home Guard is a tri-service force of approximately 72,000 volunteer men and women, of which 55,000 will report to the

army during wartime. Home Guard soldiers keep their weapons, ammunition and personal equipment in their homes. The main fighting unit of the Field Army (the Standing Force and the Augmentation Force) is the Armored Infantry Brigade, of which there are three in Jutland and two in Zealand. In addition, Bornholm Island has a force with strength corresponding to that of a reduced infantry brigade.

The Army's main battle tank is the German built Leopard. They have 180 medium tanks (120 Leopard/60 Centurion), and twenty light tanks (Walker Bulldog M41). Other major equipment includes approximately 650 M-113 and M-116 Armored Personnel Carriers, 96 155mm self-propelled howitzers and over 270 other artillery.[9] They also have the Redeye air defense missile and the TOW anti-armor rocket.

The Air Force has 7600 men of which 1900 are conscripts. There are six air stations and a total of six flying squadrons with 116 aircraft. The squadrons are broken down as follows: three fighter-bomber squadrons, one with twenty F-35 XD Draken, one with twenty F-100 D/F and one with twenty F-16; two air defense interceptor squadrons each with twenty F-104G. In addition there are two support squadrons, one with twenty RF-35 XD Draken, and one with three C-47 and three C-130 transport aircraft. The Air Force also has eight S-61 Sea King search and rescue helicopters. There are still 34 F-16 A/B fighters and ten

Gulfstream III transports on order.[10] The Air Force maintains two surface-to-air missile groups, one with 36 NIKE Hercules missiles and one with 24 improved HAWK. Both groups are located in eastern Zealand.

Despite the fact that Denmark is surrounded on three sides by ocean and has a seafaring history that goes back over 1000 years to the days of the Vikings, its Navy is the smallest of the three services. This appears discomforting for a country that has a defense strategy built around preventing an aggressor from attaining a foothold on Danish territory rather than dislodging him once he is there. Moreover, the most apparent threat to Denmark rests with the considerable amphibious capability of the Warsaw Pact Navies that will attack from the sea.

The Danish Navy has only 5700 regulars, of which 1400 are conscripts. The inventory of the Navy will, according to the Defense Act of 1973, "comprise 52 actual warships, some special purpose ships, and a number of helicopters."[11] The last four year Defense Act in 1981, which covers the period from 1981 to 1985, calls for a reduction in the fleet by 1985 to consist of 34 ships and four helicopters for combat use, and 32 ships and eight helicopters for coast guard functions.[12] Presently, the Danes maintain five submarines, two frigates, three corvettes, sixteen fast attack craft (FAC), and twelve mine

warfare ships. There are also five fishery protection patrol ships and 80 small patrol boats and craft in service (see Appendix L).

The main naval procurement, which came out of the 1981 Defense Act, calls for construction of three submarines of either German or Swedish design, and a modernization of the two newest Type-205 class subs. Submarines are critical in providing forward invasion defense and to counter foreign submarines that may invade Danish waters. Several ships are to be deleted by 1985 and, with the exception of the two commissioned Delfiner-class submarines, no construction is planned to replace them. They include: two Soloven-class FAC, one coastal minelayer and two minesweepers. The two Soloven-class will be used to supply spare parts for the four remaining ships of that class.[13]

The Defense Act of 1981 failed to address the subject of mine warfare. Aside from the completion of the last Niels Juels class corvette in 1982, no other surface craft capable of mine warfare were included.

Denmark's frigate/corvette force could be used to support operations by smaller units in the Baltic, but more probably will be needed to protect supply traffic coming in from the West across the North Sea. The ships are configured with Harpoon anti-missiles but only four recently purchased Lynx helicopters are combat-equipped for

over-the-horizon targeting. The remainder of the navy's helicopter force is configured for fishery patrol.

The last capability which contributes to naval defense and warrants some consideration is the extensive system of gun and missile coastal defenses. Although, like all fixed base weapons systems, they are vulnerable to missile and aircraft strikes, they could make operations in the Danish Straits risky if they were not pre-emptively neutralized.

The Minister of Defense controls the Danish Armed Forces through the joint Defense Command, consistinig of the Chief of Defense, the Chief of Defense Staff and the Chiefs of the Services. The Minister of Defense may delegate operational command to the Commander Operational Forces Denmark (COFDEN) in a period of tension or when otherwise deemed necessary. This will cover the time prior to assignment of Danish Forces to NATO and facilitate national allied coordination. COFDEN is identical with the Commander Allied Forces Baltic Approaches (COMBALTAP).

The readily apparent problem with Denmark's defense posture, as noted earlier, is the heavy reliance on their capability to recognize the threat and react to it in time. Both political and military leaders agree that there is a possibility that a swift, unwarned and consequently relatively light invasion of parts of eastern Denmark could

grow out of Warsaw Pact maritime maneuvers in the vicinity of Danish waters. The attractiveness of this scenario rests on the assumption that the Soviets believe that their conventional forces could achieve their objectives before the necessary decisions to intervene, possibly using nuclear weapons, could be made by NATO.

2. The Danish View of the Threat

The Danish government has in the past voiced strong complaints against the Soviet Union for its apparent willingness to ignore the sovereignty of Danish territorial waters. In September 1979, in an effort to enforce new guidelines for foreign warships, Denmark forced three Soviet warships to leave Aalbeck Bay in the Skagerrak, where they were monitoring the NATO exercise "Northern Wedding". Foreign military vessels can anchor in Danish waters only after obtaining special permission, or in case of emergency.[14]

Danish military leaders realize that it may be perceived as worthwhile by the Warsaw Pact to attack Danish territory, if they sense the presence of weak local forces and political resolve. The Soviets might believe that such an attack could well present an acceptable risk if objectives could be quickly reached without the use of out of area forces or nuclear weapons. Danish reliance on warning indicators and the inherent delay in communications

necessary to a NATO response may actually act in the Soviets favor for a Baltic scenario.

NATO claims a readiness and ability to respond to aggression anywhere in the Allilance. This ability is not apparent in Denmark. If it is not apparent, it is not providing a viable deterrent to aggression. A NATO response after attack is not in keeping with the primary goal of Danish defense strategy, which is to prevent the attack from occurring. The present Danish defense posture may not be capable of accomplishing that goal.

Military spending in Denmark dropped from 3.8 percent of GNP in 1953 to 2.6 percent in 1974. Only Canada and Luxembourg contribued less.[15] In 1978, Denmark contributed 1,320 million dollars to NATO out of a total NATO budget of 189,073 million, less than 1 percent. The high level of social expenditures at a time of economic problems competed heavily for defense dollars. The Danish government claims that NATO has put great strains on Denmark by its continual arms race. In 1978, a NATO summit agreed on a three percent annual boost in members' defense spending until 1984. Denmark has failed to mmet this agreement repeatedly. This apparent unwillingness to contribute toward defense has raised some contempt for Denmark in other nations within the Alliance. Belgian, British, German and American publications have used the word "Denmarkization" to

describe a country willing to be protected by its allies, but unwilling to pay its proper share. Still, the Danish government in 1980 cut its military spending by 100 million Kroner.[16] This was even contrary to the Danish defense agreement in 1977, which was intended to protect the defense budget from cuts.

In August 1980, U.S. Secretary of Defense Harold Brown sent a letter to his Danish colleague which warned that the government's apparent decision not to increase defense spending might endanger American possibilities of coming to Danish assistance in times of war or crisis.[17]

Contrary to apparent military opinion, there is widespread agreement among Danish politicians that the military threat to Denmark is insignificant at the moment. The probability of a limited attack against the whole or part of Danish territory or attempts at political interference by the Warsaw Pact against the Danish government are not perceived as a danger. The government appears to subscribe to the belief that any conventional conflict in Central Europe would automatically, and almost instantaneously, escalate into tactical nuclear warfare. They see little need for a strong conventional force and yet are unwilling to adopt a nuclear policy. This view is generally accepted and Danish political defense planners do not see the need to worry about countering an all out

attack in conjuction with a massive attack in Central Europe. Even a more limited attack, they feel, would trigger a nuclear response from NATO.

Denmark, like other Western European nations, wants to ensure American involvement in any European conflict. In December 1982, Danish Prime Minister Poul Schlueter's center-right government suspended all Danish allocations for NATO's planned deployment of 572 medium-range nuclear missiles in Western Europe.[18] Although this was reported to be only a short term decision, many proponents of NATO theater nuclear modernization see the decision as an indication that once again Denmark is unwilling to provide its share toward NATO defense efforts.

Denmark has always preferred to rely on detente rather than deterrence. Denmark was one of the first Western countries to initiate a dialogue with the countries of Eastern Europe, and the Danes are always quick to point out the need for NATO to take a more active role in detente. Even though strongly in favor of SALT and nuclear arms reduction, Denmark still realizes that the security of Northern Europe remains dependent upon a continued American presence. Danes generally have no desire to see Western Europe develop into a military superpower and are opposed to including defense matters in European Community Cooperation.[19]

Denmark is faced with the same basic defense problems she has faced since the end of World War II. Like most nations, the Danish government is tasked with making choices that provide the best security at the lowest cost. Defense costs have increased at a rate higher than Western inflation, and have caused military planners to evaluate each threat and to consider all possible solutions, usually selecting the one with the lower costs. Each nation's perception of the threat will dictate where defense dollars are spent. It is in this area of recognizing the threat and responding to it that NATO and Danish policy makers frequently disagree.

NATO continues to provide Denmark with a security not equalled since the Danes controlled large portions of Scandinavia in the 15th century. A broad consensus exists between the major Danish political parties. This consensus serves to maintain the continuity and stability of Danish foreign and defense policy. I. B. Faurby of the University of Aarhus concluded that, regardless of which party dominated the ruling majority, they "do not differ fundamentally over foreign and defense policy."[20]

Denmark's position within the North Atlantic Alliance will remain firm. However, favorable NATO rhetoric does not resolve the problems of a weak defense capability. Denmark's ability to secure the Danish Straits and hold

strategic reinforcement locations until NATO can assist is questionable. Present policies barring pre-positioning of allied forces and equipment require reconsideration in the face of such overwhelming odds favoring the Warsaw Pact's Baltic forces.

It goes without saying that the defense of the Baltic Approaches is more than a mere naval problem, and that such initial defense depends heavily on joint operations of land, air and naval forces from both Denmark and the Federal Republic of Germany. In the aggregate, however, the problems in the approaches are such that the most immediate tasks to be solved are maritime in nature and Denmark appears willing to allow a heavier share of the maritime burden to fall on FRG naval units.

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VI. WEST GERMANY'S NAVAL CONTRIBUTION

Germany, like Denmark, has attempted to capitalize on the natural advantages that favor the defender in the Baltic Approaches. It has gradually refined operational and equipment requirements to best utilize these defenses. West Germany and Denmark must nonetheless defend an extremely vulnerable position.

Soviet strategy and previous Baltic exercises indicate a phased employment of ground, air, and naval forces. In the straits it calls for an offensive counter air and air interdiction operation against both troops and infrastructure. Primary targets would be German and Danish airbases and ports, and command and supply installations. These attacks would likely be followed by airborne assault troops to secure beaches, while at the same time, Pact naval forces would penetrate the western Baltic and the Straits. This would pave the way for the major advance of amphibious assault forces.

The primary mission of West German maritime forces is to counter this type of amphibious attack by meeting surface combatants and support ships before they reach West German waters. To accomplish this, the West German Navy adheres to the NATO strategy of defense in depth. This strategy seems

to offer the best opportunity to engage a numerically superior enemy as far from German soil as possible by repeated employment of friendly forces at times and places chosen by the defender.

This defense-in-depth, or forward defense concept, is designed to cause gradual and continual attrition to the enemy while reducing allied vulnerability. This would be accomplished by establishing a series of barriers that the enemy would have to penetrate in order to reach his objectives. The first barrier is made up of submarines and fighter-bomber aircraft followed in turn by surface combatants and then defensive minefields.[1]

A. THE RIGHT TOOLS FOR THE JOB

The Bundesmarine, established in May 1955, has developed into a formidable arm of the Alliance. The West Germans have built their navy around the requirements of three specific regions of operations, each with its own special mission (see Appendix M). The first region is in the Baltic east of the Danish island of Bornholm and well behind the Warsaw Pact's front lines. The second area is the shallow waters west of Bornholm close within the Danish islands and the strategic straits. The last region lies outside the Baltic in the North Sea and will be only briefly addressed in this thesis.

West German forces in the region east of Bornholm must be capable of operating with a minimum danger of detection and yet still be capable of penetrating defenses and disrupting enemy shipping. The West Germans have found that the submarine is particularly suited for this type of mission. Not only are submarines difficult to detect in the shallow Baltic waters, but they require the enemy to commit large numbers of forces for defense. West German submarines are capable of mine-laying as well as anti-shipping missions. They could force the enemy to tie down considerable mine countermeasures equipment close to his home port. This could effectively limit the assets available for use in a push through the straits. As an anti-shipping weapon, the submarine could interdict enemy combatants and supply ships, causing the enemy to use a greater number of ships in an escort role and thereby reducing their availability for offensive missions.

The West Germans have built more submarines since 1959 than any other country except the Soviet Union. Most have been exported, but this is nonetheless an impressive achievement. By the end of 1981, German shipyards had received orders for over one hundred submarines. Of these, fifty-two were designed and constructed for use within the Baltic and North Seas. The most important classes are the Type 205 and 206. The West German Navy has received a total

of eighteen new 206 class and six new 205 class submarines in the last few years. The Type 205 class submarine is constructed by the Howaldt Deutsche Werke shipyard in Kiel. This company joined the Rhunstahl-Thyssen-Nordseewerken shipyard in Emden to build the Type 206. Both types of submarines are homeported in Kiel. The Navy presently plans to modernize the older Type 206 by the mid-1980s.[2]

There is little doubt that the West Germans are capable of designing a superior conventionally powered submarine. The Danes contracted to build two Type 205 subs under German license and the United States has considered a purchase of the new construction Type 206.[3] The 206 is built with a single pressure hull and is reported to be very maneuverable and quiet. All equipment is shock mounted to reduce internal noise and it can attain a submerged speed of 22 knots. The sub has a passive-active sonar system and eight torpedo tubes capable of launching both wire-guided and active-homing torpedoes. It requires only a twenty-two man crew to operate and can effectively deploy over 400 statute miles from its support facilities. From Kiel its operational range would include the Soviet Baltisk naval Base operating area (home of the Soviet Naval Infantry in the Baltic), the Liepaja Naval Base and both the East German and Polish Baltic coasts.

The 206 is ideally suited for the Baltic. In addition to carrying up to 24 mines without having to reduce its torpedo load, its small size, maneuverability and ability to self-degauss minimizes its own chance of detection and mine activation.[4]

Besides the modernization of the 206, the Germans are presently working on a Type 208, which is expected to be an air-independent propulsion system. A fuel cell design offers the most promise, the main problem being storage of the chemical fuels in the submarine. Hydrogen, for instance, could be carried in the form of a hydrocarbon which could then be decomposed catalytically before use. For short ranges the fuel cells could drive the electric motors directly, but for longer ranges (10,000 km) a propulsion installation with batteries would be required.[5] Construction of the Type 208 is expected in the 1990s.

In addition to submarines, naval fighter-bomber aircraft equipped with anti-ship guided missiles could be effective weapons in the eastern Baltic. In early July 1982, the German Navy commenced conversion of Naval Air Wing 1 in Jagel to the Tornado aircraft. Conversion is expected to be completed by mid-1983. By 1987, the German fleet is expected to have 112 Tornados.

The Tornado, because of its excellent low level high speed characteristics, is expected to be able to penetrate

enemy territory virtually undetected and engage surface combatants and transport vessels with its superior combat weaponry. Compared to its predecessor, the F-104G, the Tornado greatly increases the operational capability in terms of response time and combat effectiveness. It will also be an effective partner to the new Danish F-16s.

The Tornado is a twin-engined two-seat supersonic aircraft with a variable-geometry wing capable of all-weather penetration. Like the F-104G, it will carry the Kormoran anti-ship missile with a range of 22 nautical miles. In addition to four Kormoran missiles, the Tornado can carry the Sidewinder air-to-air missiles, bombs, machine guns and active or passive ECM pods. Developed by a consortium of British, West German, and Italian manufacturers, the Tornado represents a major step toward standardizing NATO's weaponry. Over all production for the three nations is expected to reach 809 aircraft.[6]

As previously stated, the most critical mission for the German Navy lies in the narrow waters of the Western Baltic. This region west of Bornholm requires yet another type of force structure. Too shallow for effective submarine warfare, and too restrictive for large surface vessels, these waters call for small, swift and highly mobile combatants. The ships must be able to rapidly concentrate at continually changing locations as well as be able to

exploit geographical advantages in order to compensate for the proximity, strength and flexibility of the enemy. To accomplish this mission, the Germans have built an extensive fleet of Fast Patrol Boats (FPB).

In December 1982, the first two of a new class called the 143A joined the fleet. When the planned ten 143As are completed, it will bring the German FPB fleet to some fifty ships. There are presently twenty Type 148s and ten Type 143 missile boats in additoin to ten Type 142 torpedo boats already in service. The new 143As, and eventually all German FPBs, will be equipped with four MM38 Exocet missiles for anti-shipping. In addition, they carry the 76mm OTO-Melara gun. Most will probably also receive the RAM anti-ship missile defense system for air defense. This is the same American-built system being installed on the new Type 122 frigates.[7]

The introduction of an anti-ship-capable shore-based combat helicopter is also under consideration. Because of the short distances in the Baltic Approaches, the twenty land-based Sea King search and rescue helicopters already in service could be retrofitted to conduct anti-surface operations. In an area of such high density shipping, the helicopter could provide improved targeting information more rapidly than surface craft and without having to approach the enemy within a vulnerable range. They could also

greatly expand the otherwise limited radar range of surface ships to an over-the-horizon capability, thus allowing full utilization of the range of anti-ship missiles. There is also some thought being given to mounting the Italian-built Sea Killer, air-to-surface missile, on the Sea King. This would provide the German Navy with an additional airborne anti-ship capability.

Mining responsibilities in the Approaches are divided between the Danish and German fleets (see Appendix N). The Danes have the area that includes the straits and north to the Skagerrak. The German responsibility includes the Fehmarn Belts and the eastern approaches to the straits. The Danish and German navies would rely heavily on mines to guard the entrance to the Little and Great Belts as well as possible landing beaches along the German and Danish coasts. These minefields would form the last element of an echeloned maritime defense in the Baltic.

Mines can be effectively positioned by aircraft as well as submarines and surface vessels. NATO presently has a contingency plan which calls for the use of American B-52 bombers and carrier-based A-6 attack aircraft to support mine laying operations in the Baltic Approaches. Such aircraft are based far from the Baltic and may require hours or days to reach the approaches and complete such an

operation. The immediate minelaying duties will have to be accomplished by the German and Danish forces.

The Fast Patrol Boat again lends itself to this mission. The FPB possesses both the speed and weaponry to quickly move into position and get minelaying operations started. Almost all German naval combatants are capable of minelaying but not all are suitable for operation in the straits. Because of the confined nature of the approaches, minefields can change the geography effectively and achieve a considerable barrier effect when applied with circumspection and in sufficient time. FPBs located in Flensburg and Kiel are ideally situated to move immediately into the Fehmarn Belt and begin sealing the straits.

It is estimated that it would take approximately twelve hours to complete the mining of the German sector. This time frame is based on the assumption that the ships are in port at the time the order is given and that hostilities have not begun. The German Navy feels confident that such minelaying would be highly effective in sealing the Baltic Approaches if timely political and military decisions were made.

Even though all German FPBs are capable of carrying six to eight mines, there are usually none on board during normal operations. Mines would have to be loaded at weapons depots, transported to the piers and loaded aboard ships.

All this would use up part of the critical twelve hour estimate. If hostilities have already begun, this job will be even harder and more time-consuming. FPB commanders would have to rely heavily on naval air to provide the protection to enable them to complete minelaying operations.

If West German mines could be positioned in time, they would represent a serious and costly obstacle to the Warsaw Pact. This obstacle would provide NATO with valuable time to mobilize and reinforce its Baltic allies. The costs to the enemy in terms of men, equipment, and money to sweep these mines would be considerably higher than NATO's cost of minelaying.

As a comparison, the estimated costs to the United States for the highly successful minefields off the North Vietnamese ports during the Vietnam War, was $6.5 million while the cost of ensuring they were swept came to $14.5 million.[8]

The building of a navy with ships capable of operating in the North Sea appears to account for a considerable portion of the German Navy's defense commitment in the future.

In 1979, NATO made a decision designed to improve the effectiveness of naval operations. The Tri-MNC Agreement on Maritime Contingency Operations in the North Sea and Adjacent Waters provided the foundation for improved NATO

reaction and force concentration while reducing burdensome coordination requirements.[9] On June 19, 1980, West Germany's Federal Security Council made the decision to lift the self-imposed geographical restrictions on the German Navy's area of operation, previously limited to the area east of Calais and south of the 61st parallel. German naval forces are now at the dispostiion of NATO for deployment outside this area, if necessary. However, personnel levels and the number and size of the ships have not been changed as a result of this decision.

In the North Sea, West Germany now assumes some of the load of other navies, such as the British and Dutch navies, permitting them to concentrate on more important wartime escort duties in other threatened areas of the North Atlantic. West Germany has recognized that the Norwegian coast is exposed to the threat of early amphibious assault and seizure. At the same time, the battle for control of the Norwegian Sea as the transit route for the Soviet Northern Fleet into both the Altantic and North Sea could be crucial for safeguarding the life line between America and North Sea ports. West Germany understands that, without access to reinforcements and supplies from the West, its position in the Central Front will be untenable.

It is for these reasons that West Germany has seen the need to expand its presence outside the Baltic. Six new

Type 122 Bremen Class Frigates are presently on order. They are designed for open ocean combat with a propulsion plant capable of 30-plus knots and a range of 4000 nautical miles. They carry the Harpoon anti-ship missile as well as both the Seasparrow and the RAM-anti-ship missile defense systems. The Bremen Class will also carry two Westland Sea Lynx ASW helicopters equipped with dipping sonar and MK 46 active homing torpedoes. This is the first time in history that German ships will carry helicopters. The Navy is thinking in terms of building only two Bremen Class Type 122s initially, with the procurement of another four postposed because of budgetary constraints until the 1990s.

The West German Navy intends to contribute significantly to North Sea and Norwegian Sea operations. Destroyers, helicopter-equipped frigates and Maritime Patrol Aircraft will play an increased role in North Sea ASW operations, escorting reinforcements, and, together with naval fighter-bombers, engaging enemy forces. Apart from the naval fighter-bombers which can operate in either the North Sea or the Baltic, the West German Navy presently provides sixteen ships of the destroyer, corvette and frigates type to North Sea assignments.[10]

These large ships have a rather limited role inside the Baltic. However, the forces, both ships and aircraft, that Germany has in the Baltic appear to be well suited to

accomplish their mission. They constitute a modern, well-equipped force that can assume their partnership with Denmark in defending the straits and supporting an allied maritime defense of the sea areas in the Northern Flank. German naval forces account for approximately one-third of the immediately available maritime assets in the region and nearly three-fourths of NATO's maritime force in the Baltic.[11]

This commitment to their own national defense, as well as the significant NATO contribution, demonstrates West Germany's dedication to defending the Baltic Approaches and its own littoral. With continued modernization and new construction, combined with further integration of NATO weapons systems, the West German Navy will remain a solid partner in Baltic defense and a stalwart pillar of the Altantic Alliance.

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VII. ANALYSIS

A. SUMMARY

The complexities of defending the maritime approaches to the Baltic could not be exhaustively explored in the limits of this thesis. So much of NATO's ability to respond to any threat depends on how that threat is perceived.

The Soviets have attempted to capitalize on every asset in international relations to distort Western perception of that threat. They have steadily strengthened treaty links with Scandinavia through agreements such as the Helsinki Final Act. They have attempted to demonstrate a desire for detente and nuclear arms reductions with their Nuclear Free Zone proposals, including their support for the Scandinavian sponsored Peace March in 1982. At each opportunity the Soviets have cleverly appealed to Scandinavian fears of war and hopes for world peace, while playing down their own role in arms escalation and attempting to place the blame for the arms race on the West.

In the area of international trade, the Soviets have multiplied Scandinavian reliance on Soviet raw materials and fuel energy while attempting to gain greater access to Western technology and capital. With its COMECON partners the USSR has continued to increase its percentage of Scandinavian world trade.

The most visible and the most ominous way in which the Soviets have attempted to influence Nordic defense decisions is through the use of their military forces. Far out of proportion to any opposing forces, this clarion manifestation of policy should come as no surprise to the student of Soviet foreign relations:

> "This intimate link between the armed forces and foreign policy was characteristic of Lenin's outlook from the start, since Lenin, who greatly admired Clausewitz, drew no firm distinction between war and politics, and whose specific contribution to twentieth century foreign policy was its militarization."[1]

Recent incidents such as the Soviet invasion of Afghanistan, the continual unrest in Poland, and the frequent incursions of Soviet submarines into Swedish and Norwegian territorial waters have contributed toward keeping Soviet power in a proper perspective. However, how NATO's Baltic allies may respond in the future to this increasing Soviet maritime strength and presence depends directly on how Scandinavians perceive Soviet foreign policy goals in that region. If Soviet intentions are thought to be innocuous or benign, Soviet activity will be tolerated.

The alarming strength of Soviet armed forces in the waters and on the borders of the Baltic and its approaches poses an overwhelming threat to Scandinavian security. Nations with limited resources and close, exposed geographic positions, may view the task of countering such enormous power as beyond their capability and therefore hopeless.

It is the task of each nation within NATO to remain committed to the common defense goals upon which NATO was founded. It is only through this mutual determination and cooperation that the alliance can continue to present a united deterrent so capable that the risk of conflict remains unacceptable to the Kremlin leadership.

So far Soviet pressures applied to Scandinavia have been limited to verbal appeals and threats to Norway and Denmark for renunciation of the NATO alliance and a return to the isolated neutrality that failed so terribly in World War II. However, if the risks to the Soviet Union in a Baltic expansion are ever perceived as acceptable due to NATO disunity or the absense of political will and military capability, then the Baltic could easily be swallowed by the Russian "Bear".

The Soviet strategy of pre-empting a supposed NATO strike may be considered too risky by the Kremlin leadership, if conducted on the Central Front. However, pre-emption at sea and within the confines of the Baltic could well be feasible. The Soviet-led forces in the Baltic already constitute a considerable capability. It can be argued that this capability indicates a Soviet commitment far in excess of that normally attributed to a flank area. The Baltic and its approaches represent a major component of Soviet strategy against Western Europe. The Soviets

plan the full coordination of the Baltic-based and northern strike forces, with the Baltic becoming the staging area from which Soviet naval air and seapower can strike out far from Soviet shores.

Admiral Gorshkov made Soviet naval strategy clear in 1963, when he stated that the Soviet Navy needed to be restructured in order to counter the seaborne components of the United States strategic arsenal as far from Soviet soil as possible. The Danish peninsula could provide the forward bases from which this goal could be accomplished and domination of the Baltic supply routes would ensure the sustainability of those forward bases.[2]

Every major Soviet naval exercise since 1968 has utilized the Baltic Fleet in a significant role and has generally assumed that access to and from the Baltic would be unobstructed. OKEAN 1975, one of the larger Soviet naval exercises, demonstrated a number of firsts for naval operations. Significant from a Baltic perspective was the presence of more than one hundred ships involved in the Baltic and North Sea and the fact that Soviet naval units operated for the first time in the Bay of Lubeck. Before OKEAN 1975, the Soviet command had not previously dispatched such large numbers of units from the Baltic into the Atlantic. Units of the Baltic Fleet will play an important

role in reinforcing Soviet naval forces in the Atlantic in an operational emergency.

In the event of an actual attack by Warsaw Pact forces, if the Baltic Fleet is to assume its practiced position in the North Sea as well as the Baltic, the Danish Straits must be one of the first NATO defenses attacked.

This is the first of several conclusions derived from this research. A second conclusion is that NATO does not have sufficient numbers of forces in place to defend the approaches in the face of a numerically superior Warsaw Pact advance; third, that if the Warsaw Pact were successful in gaining control of the Baltic Approaches, the Soviet Baltic Fleet would play a significant role in any conventional battle for the North Sea and Atlantic. The presence of these naval units outside the Baltic would have a negative impact on British security as well. Control of the approaches would also allow the use of Jutland as a staging area for attacks north into Norway, south into the Federal Republic of Germany and west against the British Isles.

A final conclusion is that such an attack would be in keeping with historical Soviet security interests. An attack against the Baltic Approaches would be deeply rooted in the same Soviet defensive mentality and a feeling of insecurity that resulted in Soviet annexation of Latvia, Lithuania, Estonia and large portions of Finland and

Germany. The problem of defending the industrial complex of Leningrad and further on, the heart of Russian, is still a critical consideration for Soviet defense planners. It if hard to envision a far reaching attack by Soviet forces against the West preceeding very far without the securing of any approaches to Leningrad or the Soviet Union's Baltic coast. Soviet warfighting strategy demands that the battle be driven forward on into the enemy's territory at the earliest stage of conflict in order to protect Russian soil. This goal can only be assured if the Baltic and its approaches are under Soviet control.

B. NATO OPTIONS

What can NATO do to regain the regional balance in the Baltic? NATO must pursue two aims at once in order to present a unified deterrent strong enough to discourage Soviet advances in Scandinavia. One aim leads to a military capability that can counter the Warsaw Pact's numerical superiority, not necessarily numerical equality but a level that would ensure that the risk of any attack is too high when compared to the expected gains. The second aim is a political road. To travel this road would require strong, dedicated and responsible political leadership. Political leaders should look beyond party gamesmanship and lead the Nordic countries in maintaining a credible defense posture. The public must be provided easy access to the facts in

order to see the threat for themselves. It is impossible to expect the voters in a democratic society to support costly, but necessary, defense programs if they cannot see the purpose or requirement for such programs. NATO tends to neglect public information and what information is available is not sufficiently disseminated to people unfamiliar with NATO bureaucratic procedures.

In light of the current economic and political restraints inherent in the Baltic and in consideration of the various individual national security interests, NATO could pursue three viable military options in order to regain a portion of the Baltic regional balance and enhance the security of the Baltic Approaches. The first option centers around the need for improved air power to counter Soviet numerical superiority in aircraft; the second option supports the construction of a naval task force dedicated to the Baltic; and the third would increase the capability of NATO to quickly and effectively mine the Baltic Approaches.

1. Air Superiority

Responding to the air threat in the Baltic region would require NATO to increase its own air capability in that region. It seems economically unlikely that Denmark or Norway would significantly increase their air forces beyond current levels. Therefore an examination of the traditional reliance of the Baltic nations on the self-regulating

effects of the Nordic Balance is imperative. The "Balance" part of the concept no longer exists. It has already shifted dramatically in favor of the Warsaw Pact forces. The Danes and Norwegians should take political steps to strengthen their contribution to the alliance and to help counteract the decline in NATO power. They should recognize that only through the pre-positioning of allied aircraft, surface-to-air missiles (SAMS) and other warfighting equipment can they hope to ensure a robust deterrent and defense posture. Unfortunately, this solution is unlikely to succeed in the present political climate.

One significant step toward countering the air threat was the decision by Danish, Norwegian, Belgian and Dutch defense planners, to purchase the USAF fighter-interceptor, the F-16. As these aircraft slowly enter into their respective forces, Northern Flank air defenses will be greatly improved. However, many of Norway's assets will still be needed in the Finnmark region and provide no additional contribution to the Baltic Approaches. Even with these new aircraft, additional reinforcement of Denmark and Southern Norway with allied fighter aircraft plus additional SAM implacements is necessary to raise losses of Soviet bombers to an unacceptable level. Additionally, it is unclear whether current airfields and support assets are even capable of accepting such reinforcements. Presently,

NATO does not have reasonably assured access to airfields in either Denmark or Norway because of the current basing policies of those nations. Both countries appear unwilling to permit allied assistance in peacetime, yet because of political and economic restraints are unable to provide adequate airfield support or operating facilities.

Warsaw Pact exercises seem to indicate that they desire to eliminate any allied air capability quickly in the first stage of conflict, by attacking the airbases and associated communications and supplies. Shortages in support facilities in peacetime would become even more acute after the first Soviet strike had begun.

Although the actual number of completed Collocated Operating Bases (COBs) in Europe is classified, it is generally acknowledged that the number is below that required to accommodate all U.S. Air Force F-15 and F-16 fighters that could be employed in the defense of Europe, to say nothing of carrier-based, British and other allied reinforcements.[3] In addition, Denmark and Norway are also expected to accommodate Marine air-ground task forces (MAGTF) and their air wings, that would likely be assigned in wartime.

The COB problem is not new to NATO, and improvements are being made. However, for nations such as Denmark and Norway that currently do not allow adequate pre-positioning

and rely heavily on reinforcements, it is critical that sufficient air facilities be available at a moment's notice.

Land-based NATO air reinforcements could free up national units to counter Warsaw Pact aircraft and provide protection for the eastern flank of allied forces attempting to reinforce Baltic defenses. If such aircraft were pre-positioned, NATO's critical warning time could be reduced and Soviet military planners would be faced with new complications.

Like all military planners, the Soviets face the problem of aircraft allocations among theaters. They must carefully calculate the losses they expect as a result of such air strikes. Any action NATO could take in this period, when they are essentially "outgunned" on all fronts, to increase those losses and therefore heighten the risk of success, would enhance deterrence and work to NATO's advantage.

2. A NATO Baltic Fleet

A second option worthy of consideration, particularly in light of the fact that as mentioned earlier, Danish and Norwegian basing restrictions are not likely to change, would be to increase the NATO naval presence in the Baltic Sea. Considering the time and distance factors that inhibit rapid allied reinforcement, it would seem prudent to permanently deploy forces to counter Soviet pre-emptive

plans in the area. A small, modern task force equipped with Harpoon and Tomahawk missile systems would significantly augment NATO power in the Baltic.

These forces might be in the form of Standing NATO Naval Forces for the Baltic and Norwegian Seas. The concept would be similar to the existing commands of NATO's Standing Naval Force Atlantic and Standing Naval Force Channel. In the Baltic such a force could consist of U.S., Danish, Norwegian and West German ships, the primary difference between this force and a naval force such as Standing Naval Force Atlantic, is that, although individual ships would rotate, the force would remain in the Baltic Sea. Also, instead of being composed of a handful of destroyers and frigates, it should be composed of ships uniquely suited for Baltic operations, missile equipped strike hydrofoils (SHMs).

With the development of the Tomahawk cruise missile, and the capability to hit targets 600-900 miles away, such a force would not only be cost effective to a degree that would allow all Baltic allies to contribute, but it would turn the patrol gunboat of the past into an extremely viable naval weapons platform. The goal would not be to replace the larger ships, but to build a new force within the NATO alliance that is capable of tilting the Baltic balance toward a situation more favorable to NATO and stable deterrence.

This concept, recently outlined by Commander Miles A. Libbey III, U.S. Navy and based upon the now proven capabilities of the land-attack version of the Tomahawk (TLAM), is worthy of serious consideration by NATO.[4]

In the past, the U.S. Navy has not been interested by small combatants. Such negative features as short-range weapons, "no legs", and "easy targets" are frequently cited. Also, with the end of the Vietnam War, the U.S. Navy lost its mission requirement for small patrol boats. However, this mission is certainly present in the Baltic, where Fast Patrol Boats (FPBs) provide the majority of Baltic Naval defenses.

The Baltic consists of relatively protected waters, where distances are short and the sea is close to numerous lucrative targets. A TLAM force there could offset the NATO shortage of tactical air, provide support to the battle on the Central Front and act as a naval tripwire in the north.[5] Because the Baltic threats from aircraft, ships, missiles and submarines are great, maneuverability, speed and a small radar profile are premium design qualities. These qualities all contribute to the survivability of the ship. Speed and maneuverability help dilute the enemy's targeting efforts. The ability to go faster than 33 knots (normal surface ship speed) is therefore critical. The small radar signature

allows the SHM to blend in with high density merchant and fishing traffic or hide close to land masses.[6]

The "missing link", as Commander Libbey refers to it, is not the American Pegasus-class hydrofoil missile ship (PHM). He proposes a ship of similar design, but larger and better-equipped. Because of the rough seas in the Baltic and the effects on crew fatigue and ship maintenance, the ships would have to operate on cycled patrols of only a few days each. A force of 30 SHMs would be preferred in order to allow a three cycle rotation in which ten ships could remain at sea at any one time. If the ships carried two Harpoons (or other NATO surface-to-surface missile) and six TLAM-Cs (conventional warheads) and ten ships were always on station, that would bring 60 non-nuclear NATO missiles to bear against Eastern military sites. If such a force was also developed for the Black Sea, it would place 120 missiles at NATO's disposal for a first response against prime military and industrial targets (see Appendix O).

From the international waters in the Baltic four out of five primary northern Soviet airfields can be reached: Pechenga, Belusha-Guba, Severomorsk and the Northern Fleet Headquarters at Murmansk. There are estimated to be over 40 airfields on the Kola Peninsula and more than 700 aircraft.[7] These forces are expected to play a significant role in the North Atlantic Sea battle. On the Baltic coast three

airfields near Riga, Baltysk and Kaliningrad are vulnerable to Tomahawk attack.

The ability of an SHM force to respond quickly to a Warsaw Pact attack, their capability to survive a first assault, and the extreme accuracy of the TLAM-C would cause the Soviets to rethink their game plan for naval warfare in Europe. This force would demonstrate a renewed NATO and U.S. commitment to the Baltic in which all regional partners could participate. The bond that would be formed between the U.S. Navy and other NATO navies through the sharing of the TLAM-C and the joint operations that would follow, would demonstrate increased NATO unity and go far toward healing wounds within the alliance. And last, but certainly not the least important, is the significant increase in NATO's ability to immediately respond to Soviet aggression in the Baltic and destroy important second and third echelon sites in war. Such a capability would present a credible Baltic Naval deterrent and would go far in preserving peace and stability in the region.

3. Aerial Minelaying

The third option to explore is extremely critical to the Baltic. It has to do with effective and timely deployment of NATO's mine assets within the Baltic Approaches. Warning time could be extremely limited. As noted earlier, NATO relies heavily on the use of mines to secure the

approaches in wartime. Therefore, it is imperative that NATO have a capability of responding to the mining mission in a more timely manner. NATO's current ability to seal the Baltic is questionable.

Aside from traditional means of mine deployment via surface ships and submarines, aerial mining has been imployed effectively in the Baltic since 1916.[8] However, aerial mining capability will rely on the realization of the first option, that of being able to maintain air superiority at least in the early stages of conflict.

Although aerial minelaying was extremely effective in the Second World War and the North Sea mines accounted for 85 percent of the total number of enemy ships which were mine victims (1347 enemy ships sunk or damaged), NATO presently has extremely limited aerial minelaying capability.[9] There is none within the Baltic region. NATO's Baltic mine warfare surface ships can be described as too old or too few.

Based on the U.S. Navy's successful experience in aerial minelaying in Haiphong harbor, the United States has taken the lead in the alliance on aerial minelaying techniques. A number of U.S. conventional combat aircraft are capable of undertaking mining operations. The Navy's P-3C Orion can carry between four and ten mines depending on their type (Norway flies the same aircraft). If available,

B-52Ds can be equipped to carry all U.S. air-laid underwater mines, which could vary in quantity from 84 500 lb. Destructor mines to a typical load of 18 Captors.[10] Carrier-based A-6Es and A-7Es can also carry small numbers of the heavier mines, but would require a large number of sorties to complete extensive mining operations.

All these aircraft, with the exception of the Norwegian P-3C, are located great distances from the Baltic Approaches. Because of many demands and limited resources, it would be extremely shortsighted to expect a nation such as Denmark to devote a large portion of its defense budget toward sophisticated mine-capable aircraft. However, with the development of a Cargo Aircraft Minelaying System (CAMLS) this capability may be within their grasp.

Built by Lockheed-Georgia Company, the system is designed to be fitted into the C-130H (there are three in Danish service), C-141A and the C-5A. The smaller aircraft could carry around twenty Captor size mines and around 80 for the larger aircraft.[11] The system is designed for rapid installation and removal and could likely be modified to fit other existing military and commercial cargo aircraft. It is a self-contained system with the mines on standard aircraft pallets for ease of handling. The mines are delivered from the ramp of the aircraft by an ejector module

operated by a single loadmaster and provides fully automatic or manual control of the entire launch procedure.

CAMLS provides a relatively cheap but high volume delivery capability that allows for rapid defensive minefield implacement. When combined with navigational systems such as the new Ground Position Satellite system, navigation inaccuracy can be minimal even in severe Baltic weather. With U.S. cooperation, CAMLS is a system within the reach of NATO allies and would greatly improve NATO's Baltic defensive minelaying capability. It may provide the speed necessary to close the Baltic within the limited warning time that will likely be available.

CHAPTER VII REFERENCES

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2. Good reviews of Baltic Sea scenarios are available in: Captain Robert D. Wyman, "Their Baltic Sea Fleet," U.S. Naval Institute Proceedings, October 1982, pp. 156-159; "The Soviet Baltic Fleet," Navy International, February 1983, pp. 97-102; John Erickson, "The Northern Theater: Soviet Capabilities and Concepts," Strategic Review, Summer 1976, pp. 67-82.

3. Congress of the United States Congressional Budget Office, U.S. Air and Ground Conventional Forces for NATO: Air Defense Issues, (Washington: U.S. Government Printing Office, 1978), p. 26.

4. Commander Miles A. Libbey, "The Missing Link," U.S. Naval Institute Proceedings, July 1982, pp. 37-41.

5. Ibid., p. 38.

6. Ibid., p. 39.

7. Ibid., p. 41.

8. Squadron Leader G. Skinner, "Aerial Minelaying: Possibly the Most Potent Sea Warfare Technique for the U.K.," RUSI, February 1982, p. 57.

9. Ibid., p. 58.

10. Ibid., p. 60. (The Captor MK 60 mine gets its name from "encapsulated torpedo" and is comprised of a MK 46 torpedo inserted into a mine casing which is then moored to the bottom. It is claimed that the Captor has the ability to detect and classify submarine targets whilst surface ships are able to pass over a Captor field. It has the ability to turn "on" and "off" in order to conserve power and will only initiate release of the torpedo when the target is within range of its homing head).

11. Ibid.

VIII. CONCLUSION

Until the early 1970s, NATO could accept regional inferiority in land forces in the Baltic littoral as long as allied naval forces in the North Atlantic and Norwegian Sea remained unchallenged. The 1970s witnessed a significant growth in Soviet naval power, while at the same time NATO's maritime forces were reduced. The Soviet Baltic Fleet has steadily specialized and modernized its capabilities to meet the demands of narrow sea operations. Warsaw Pact exercises have demonstrated a well practiced ability for amphibious assault, ready to support the flank of advancing ground operations and secure the Baltic Approaches. Whether such a Warsaw Pact seizure would be designed to allow Soviet Baltic combatants to pass unhindered in support of the Northern Fleet, or merely intended to allow the Baltic to be sealed from a possible NATO advance toward Leningrad, is relatively unimportant. Either purpose would place the control of the Northern Flank in Soviet hands and effectively split NATO in two, directly affecting the Central Front and isolating the Northern Flank.

The threat confronting the North Atlantic alliance in the Baltic region is formidable, in both conventional and nuclear terms; but the threat is by no means beyond the

capability of the alliance to continue to deter. Soviet eagerness to avoid the risks of a quick nuclear escalation in the Central region might well lead them to take an indirect approach around the European perimeter. It is the forward sea areas such as the Baltic that will be the first to respond to any encroachment.

If NATO is to raise the level of regional deterrence in the Baltic, it must first raise the consciousness of the political leadership of the Baltic allies regarding the threat. Any change in the regional balance is ultimately dependent on political decisions. In the face of expanding Soviet military power in Europe, it is NATO's unity, resolve and the dedication to use the resources and power at its disposal, should it become necessary, that can hold Soviet expansion in balance.

In the Baltic, there is a commanding case for looking anew at pre-positioning, including both men and equipment. With the current level of technology, modern warfare proceeds very quickly and allows little time for mobilization. The "expeditionary philosophy" of reinforcement from afar no longer has the degree of military or political utility that is possessed a few years ago.

Close ranges in the Baltic make NATO targets extremely vulnerable to a first strike air attack. Political and economic considerations do not permit Norway, Denmark or

even West Germany to significantly expand their air forces. Pre-positioned air assets would permit sufficiently rapid mobilization and the defensive mining of the approaches and would as well assist in protecting airfields necessary to allied reinforcements.

The alliance must rid itself of the idea that any defensive or preparatory response to Soviet expansion is, in itself, perceived as a provocation by the Kremlin. Allied defenses that are perceived to be weak can constitute invitations to aggression.

Because of the political sensitivity involved with increasing Western presence in the form of troops stationed ashore, NATO should consider expanding its maritime position in the Baltic. Such an expansion could take the form of a NATO Baltic Sea Fleet equipped with modern conventional warhead missile systems and able to respond immediately to a Warsaw Pact advance. A force designed to operate in the Baltic Sea environment would pose an obstacle to Soviet maritime armed coercion and serve to solidify NATO's commitment to Baltic security. United States participation in such a force would offer the NATO European allies a convincing and reassuring offset to the influential presence of Soviet power at their doorsteps.

The United States, as a leader of the alliance, should push for the expansion of NATO's minelaying capability in

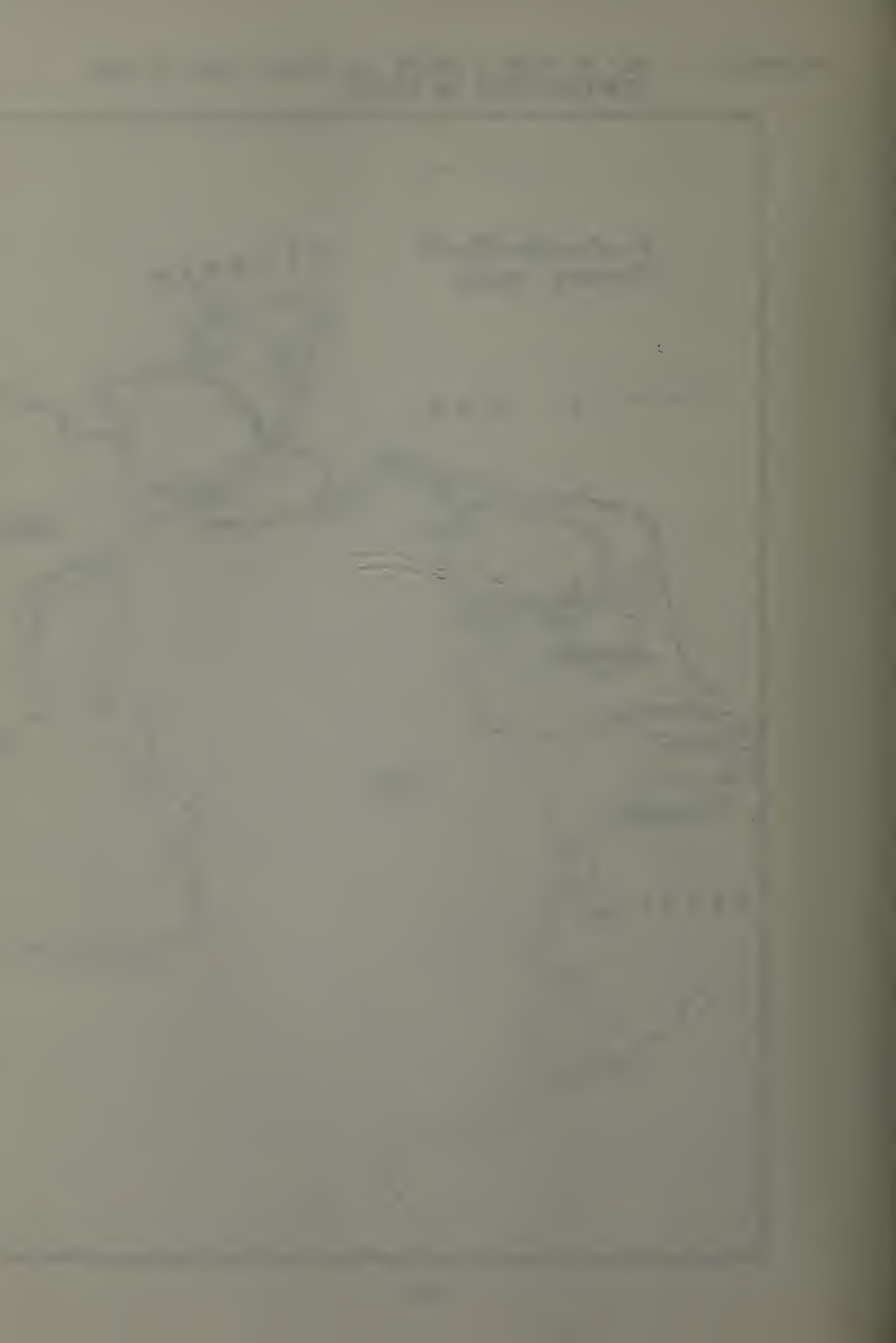
the Baltic. The defense of the Baltic Approaches relies heavily on timely implacement of defensive minefields. The U.S. is able to provide aerial minelaying technology that can convert present cargo aircraft assets for an aerial minelaying mission. The Cargo Aircraft Minelaying System is an "off the shelf" capability that would greatly accelerate Baltic minelaying.

The security requirements of the North Atlantic alliance have not changed since the alliance was formed. It's deterrent strength lies in the paradox that only from a position of power and the clear ability to inflict damage on an aggressor beyond a level he is willing to accept, can basic national interests and stability be at least nominally assured. The nations directly involved in maintaining the freedom of the Baltic and its approaches represent only a small portion of the alliance membership. However, the policies and attitudes projected within this region reflect directly on the character and effectiveness of the entire alliance.

APPENDIX A: MAP OF DENMARK

APPENDIX B: MAP OF THE NORTHERN FLANK

APPENDIX C: MAP OF NATO'S NORTH SEA PORTS VITAL TO THE REINFORCEMENT OF EUROPE



APPENDIX D: THE BALTIC APPROACHES: CHARACTERISTICS AND RESTRICTIONS

The geography of the Danish Straits is confining and offers a perfect military checkpoint. Three avenues of shipping exist from west to east as follows:

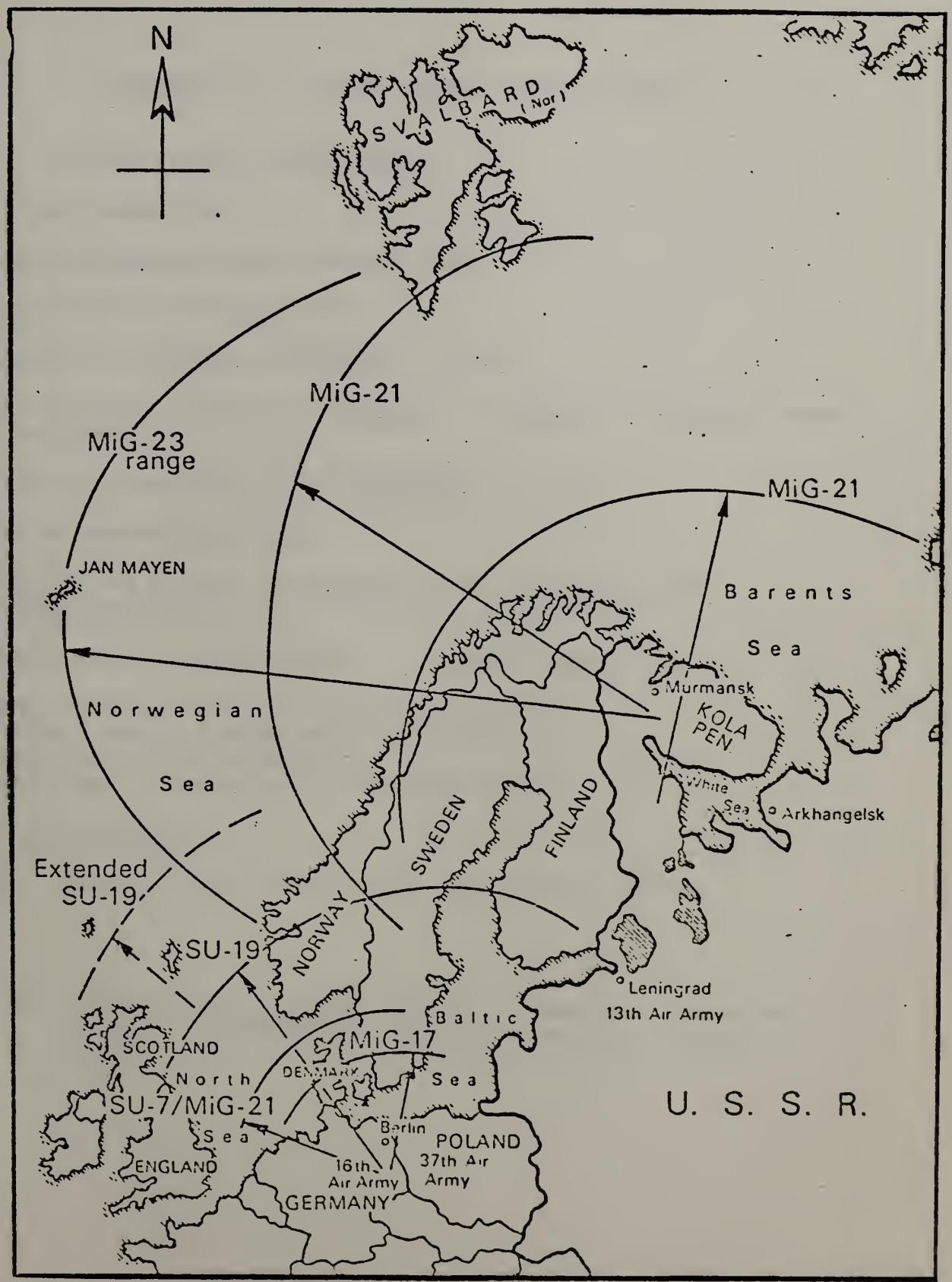
1. LITTLE BELT: 30 miles long, 1/2 to 20 miles wide, 50 feet deep minimum
2. GREAT BELT: 44 miles long, 10 miles wide, 42 to 215 feet deep
3. ORESUND: 87 miles long, 2 1/2 to 17 miles wide, deeper than the other straits but does have shoals of 23 feet

Denmark controls transit through these straits by virtue of The Treaty of Copenhagen, 1857. After 1951, a Royal Danish Edict allowed warships in the straits in peacetime under certain conditions:

LITTLE BELT:	Diplomatic notice 8 days in advance
GREAT BELT:	Free passage except for warships in the strait for over 48 hours, then 8 days notice necessary. Permission necessary if more than 3 warships of the same nationality use the straits at the same time or if the stay exceeds 4 days.
ORESUND: (The Sound)	Same restrictions as Great Belt except 8 days diplomatic notice necessary if transitting Copenhagen Roads--free passage through the Swedish side if the vessel does not stop or anchor. (Sweden controls half of Oresund.)

Submarines must transit all three straits surfaced.

APPENDIX E: THE RANGE OF SOVIET AIRPOWER IN THE NORTH



APPENDIX F: POLISH NAVAL FORCE LEVELS

NAVY: 22,500 (6,000 conscripts).

4 W-class submarines.

1 Kotlin destroyer with two Goa SAM.

13 Osa FAC(M) with Styx SSM.

17 FAC(T): 4 Pilica, 10 Wisla, 3 P-6.

23 large patrol craft: 13 Obluze, 1 Oksywie, 9 Gdansk (some coastguard).

23 ocean minesweepers: 12 Krogulec, 11 T-43.

25 K-8 minesweeping boats.

23 amphibious ships: 8 Polnocny LCT, 4 Marabut LCM, 15 Eichstaden LCA.

3 intelligence vessels (AGI): 1 B-10, 2 Moma.

1 Naval Aviation Div (52 combat aircraft):
1 attack regt: 3 sqns with 42 MiG-17.
1 recce sqn with 10 Il-28.
1 hel regt: 2 sqns with 25 Mi-2/-4/-8.

SSM: Styx/Samlet

Bases: Gydnia, Hel, Swinoujscie, Kolobrzeg, Ustka.

Source: The Military Balance 1981-82, (London: International Institute for Strategic Studies, 1982), p. 26.

APPENDIX G: GDR NAVAL FORCE LEVELS

Navy: 16,000 (10,000 conscripts).

3 sqns.

2 Rostock frigates (ex-Sov Koni).

1 Koralle corvette (more building).

12 Hai large patrol craft.

15 Osa-1 FAC(M) with Styx SSM.

49 FAC(T): 18 Shershen, 31 Libelle.

50 coastal minesweepers: 14 Kondor-I, 36-II.

12 Frosch LST.

2 Kondor-I intelligence collection vessels (AGI)

8 supply ships and tankers, incl. 2 modified Frosch lt tpts.

1 hel sqn with 8 Mi-4, 5 Mi-8.

Coastal Frontier Brigade (3,000): 12 inf, arty bns, 8 boat sqns; 18 vessels, 152mm guns, Samlet SSM.

Bases: Peenemünde, Rostock/Warnemunde, Sassnitz, Wolgast, Tarnewitz.

Reserves: 25,000

Source: The Military Balance 1981-82, (London: International Institute for Strategic Studies, 1982), p. 19.

APPENDIX H: A COMPARISON OF WARSAW PACT BALTIC FLEET NAVIES

	German Democratic Republic	Poland	Soviet Baltic Fleet
Submarines	0	4	about 37
Aircraft carriers	0	0	0
Principal surface combatants	2	1	46
Patrol combatants	12	0	-
Amphibious warfare ships	12	23	#
Mine warfare ships	0	23	40
Mine warfare craft	33	25	90
Coastal patrol river/ roadstead craft	82	53	125
Underway replenishment ships	4	0	15
Material support ships	0	0	10
Fleet support ships	2	5	25
Other auxilliaries	28	9	115
Total ships	175	141	about 545
Naval aircraft	0	52/25*	260
Naval personnel strengths	16,000	22,500	105,000

* Helicopters

- The 120 patrol combatants in the Soviet Navy are dispersed variously between the four fleets and the Caspian Sea flotilla.

Sixty of the 86 Soviet Amphibious warfare ships are smaller MP-4 and Polnochny classes. These are distributed variously between the fleets.

Source: The Military Balance 1981-82, (London: International Institute for Strategic Studies, 1982).

Type	Class	In Service	Ordered	Planned	Total
SS	Draken	4			4
	Sjoormen	5			5
	Nacken	3			3
	Vastorgotland		4		4
					16
DD	Halland[2]	1			1
FAC	Spica	6			6
	Norrkoping	12			12
	Hugin	17			17
	Stockholm		2		
2					
	Goteburg			6	6
					44
PC	SKV1	5			5
	Hano	4			4
	Skanor	4	4[3]		8
	V57	1			1
	61	17			17
					35
ML	Alvsborg	2			2
	Carlskrona	1			1
	Thule[4]	1			1
	MUL 12	8			8
	MUL 11	1			1
	501	36			36
					49
MCMV	Hisingen	7			7
	Gassten	3			3
	Arko	12			12
	Landsort		2	6	8
	SAM		5	10	15
					45

Type	Class	In Service	Order	Planned	Total
Amphibious LCU	Grim	3			3
	Sleipner	2			2
	Ane	4			4
LCVP	201	81			81
	300	54			54
Transports			8	8	8
					152
Icebreakers					
	Oden	1			1
	Tor	1			1
	Njord	1			1
	Ale	1			1
	Urho	3			3
					7
Hydrographic					
	Coastal Survey	3			3
	Mansson	1			1
	Nordenankar	1			1
					5
Auxiliaries	Tugs	19			19
	AGI		1		1
	Rescue	1			1
	Tanker	2			2
	Misc	28			28
					51
			TOTAL		405

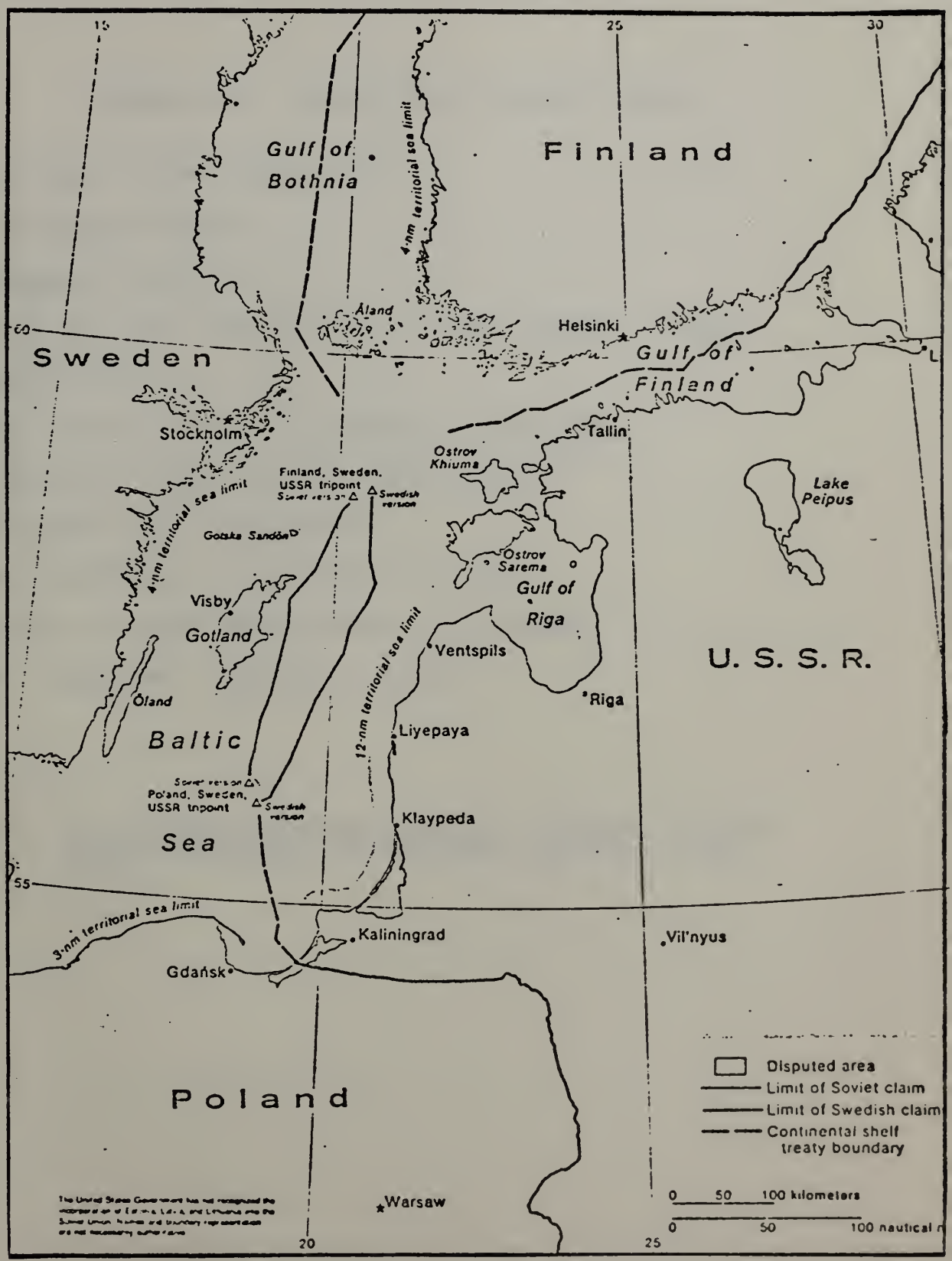
*Includes units belonging to the Coast Artillery
[1]Includes vessels on order
[2]Halland has been laid up prior to deletion from the fleet
[3]Being modernized from old vessels
[4]Icebreaker with minelaying role.

Coast Artillery Units

Coast Artillery Brigades
Coast Artillery Battalions
Barrier Battalions & Barrier Companies (fixed or mobile)
Artillery & Missile Batteries
Coast Ranger Companies
Mine Layer Squadrons
Base Units
Total No. of Units = 60

Source: Navy International, February 1983.

APPENDIX J: BALTIC SEA CONTINENTAL SHELF BOUNDARY CLAIMS



APPENDIX K: FINNISH NAVAL FORCE LEVELS

Navy: 2,500 (1,900 conscripts).

1 ex-Sov *Riga* frigate.

2 *Turunmaa* corvettes.

5 FAC(M) with MTO (*Styx*) SSM: 4 ex-Sov *Osa*-II, 1 *Isku*

11 *Nuoli* FAC(G).

5 large patrol craft: 3 *Ruissalo*, 2 *Rihtniemi*.

3 minelayers, 6 *Kuha* inshore minesweepers.

1 HQ/log/trg ship (minelayer).

14 small LCU/tpts, 8 utility/spt ships.

(On Order: 8 *Tstv* (PB-80) FAC, 5 log ships.)

Bases: Uppiniemi (Helsinki), Turku.

Source: *The Military Balance 1981-82*, (London: International Institute for Strategic Studies, 1982), p. 42.

APPENDIX L: DANISH NAVAL FORCE LEVELS

Navy: 5,700 (1,400 conscripts).

6 submarines: 2 Narhvalen, 4 Delfinen (1 to retire in 1981).

5 frigates with 8 Harpoon SSM, Sea Sparrow SAM:
2 Peder Skram, 3 Niels Juel.

5 Hvidbjornen fishery-protection frigates, each with 1 hel.

10 Willemoes FAC(M) with Harpoon SSM.

6 Soloven FAC(T) (some in reserve).

22 large patrol craft: 8 Daphne, 3 Agdleq, 2 Maagen, 9 Barso.

28 coastal patrol craft.

7 minelayers: 4 Falster, 2 Lindormen, 2 Langeland (to retire 1983).

6 ex-U.S. Type 60 coastal minesweepers.

Coastal defence unit:
8 Alouette III, 7 Lynx hel.

(On order: 4 Type 210 submarines, 15 Harpoon SSM, Sea Sparrow SAM, 1 Lynx hel.)

Bases: Copenhagen, Korsor, Frederikshavn.

Reserves: 4,000; Navy Home Guard 4,900. 20 coastal patrol craft.

Source: The Military Balance 1981-82, (London: International Institute for Strategic Studies, 1982), p. 31.

APPENDIX M: WEST GERMAN NAVAL FORCE LEVELS

Manpower: 36,500; and about 4,800 officer; (11,000 conscripts) includes Naval Air arm.

Reserves: 25,000

Conscripts service period: 15 months

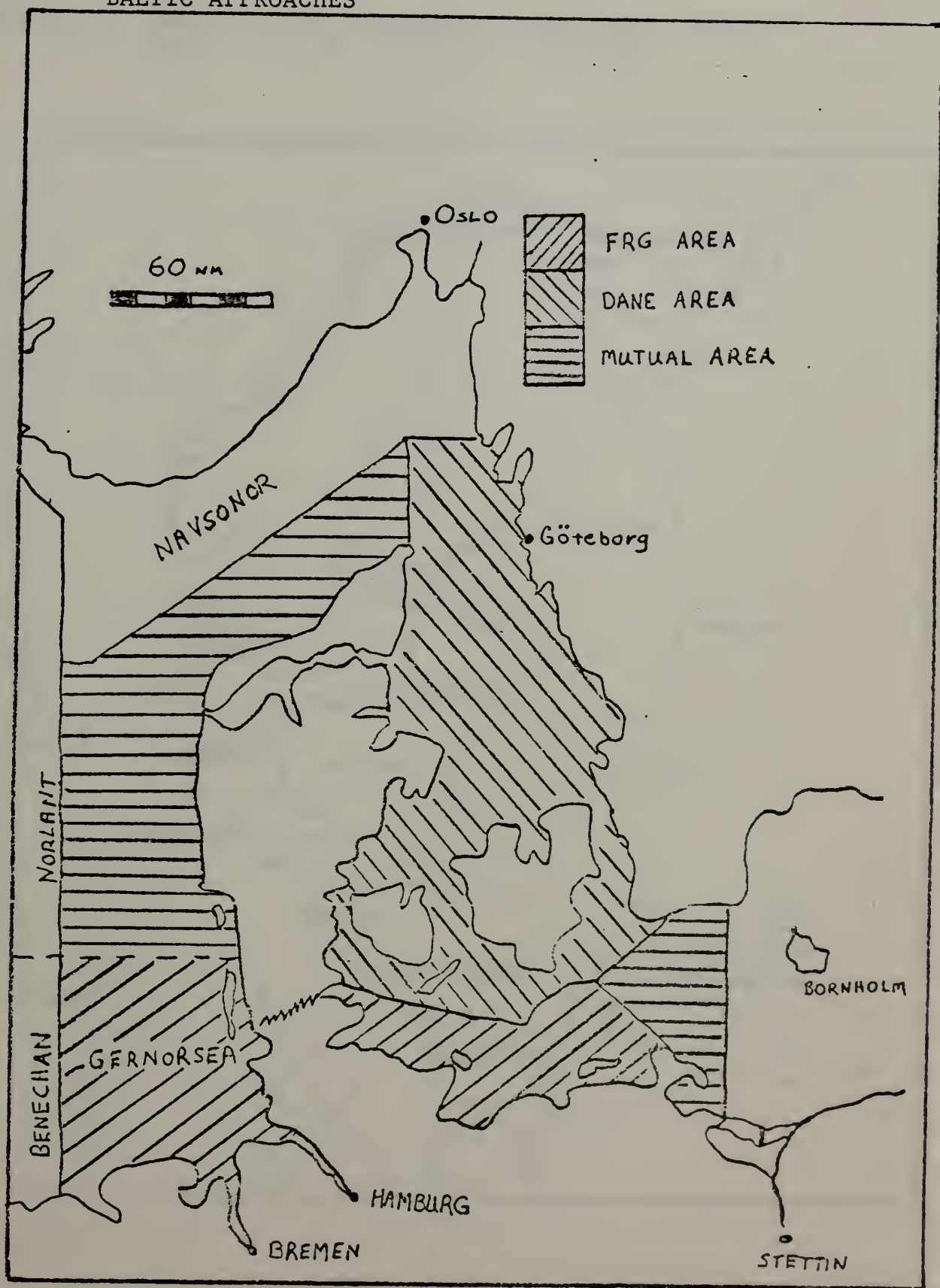
FLEET:

Destroyers:	3 modified Adams class DDG (with Tartar missiles) 4 Hamburg class (with Exocet missile) 2 ex-U.S. Fletcher class
Frigates:	6 Koln class
On Order:	6 F122 frigates ordered by the West German Navy are armed with Raytheon Sea Sparrow point-defense missiles, McDonnel Douglas Harpoon anti-ship weapons and Lynx helicopters. Deliveries began in 1981.
Corvettes:	1 Hans Burkner A 1449 5 Thetis class
Submarines:	18 new construction Type 206 6 Type 205 2 Type 206 1 converted Type XXI
On Order:	The Type 208 is being constructed and will be ready in the 1990s. 6 new submarines of Class 210, with a displacement of 750 tons, are under consideration in the next few years.
Fast Patrol Boats:	10 Type 153 A (with Exocet MM 38 missile) under construction 10 Type 142 (with Exocet MM 38 missile) 10 Zobel class (with torpedoes) 20 Type 148 (with Exocet MM 38 missile)

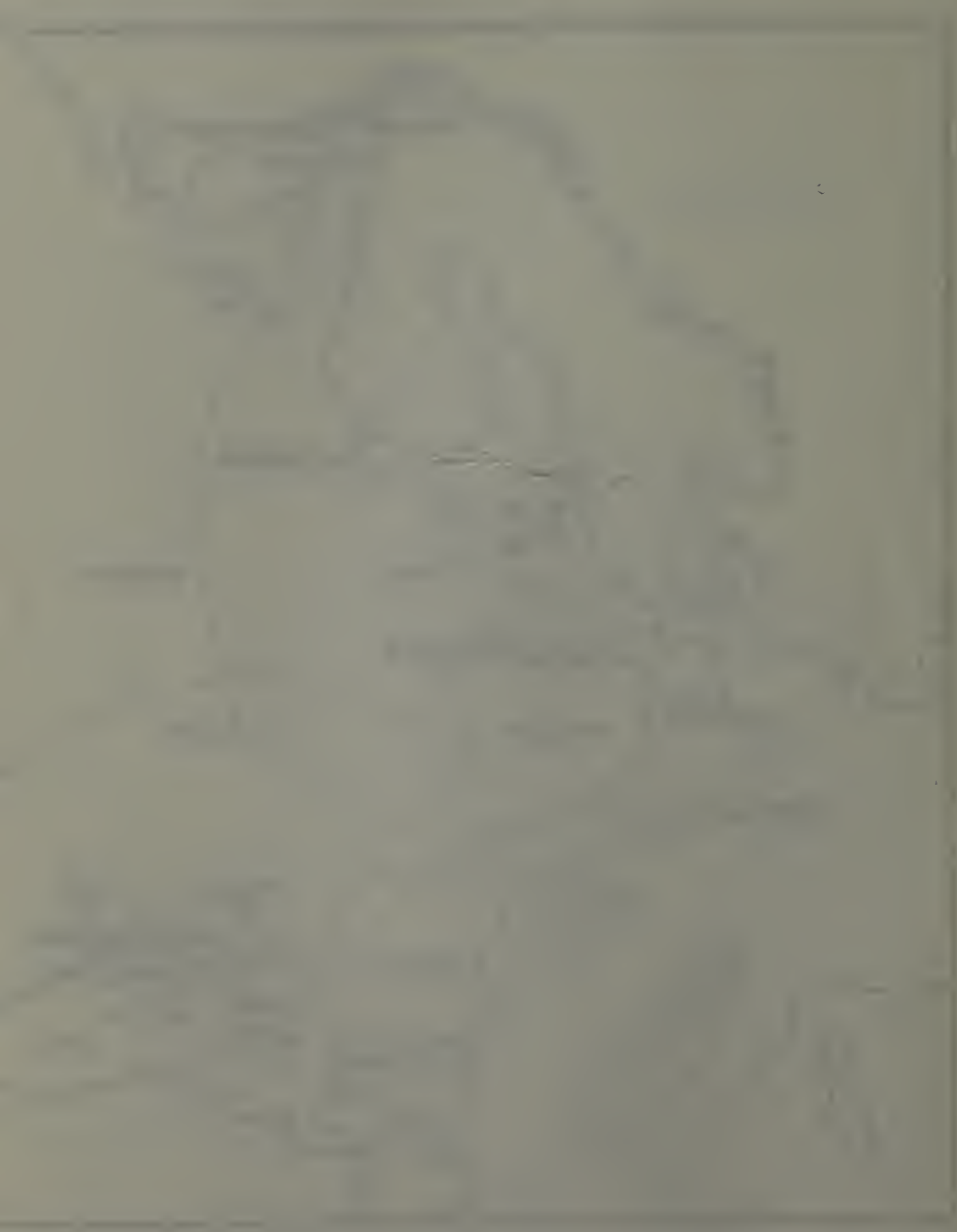
Amphibious forces:	28 LCM type 22 LCU type
On order:	There are plans to obtain 10 Type 162 hydrofoil FAC from the U.S.
Mine warfare forces:	18 Lindau class 22 Schutze class 10 Frauento class 1 Holnis class 2 Niobe class 8 Aridne class SAMs: Roland II, Seacat AAMs: Sidewinder
On order:	A new class of minehunters, Type 342, is planned. The Navy hopes to receive three complete Md.86 naval gunfire systems. Also Class 143 FAC scheduled to be procured. Various miscellaneous service and regular ships, launches, tugs, icebreakers, survey ships, auxiliary ships, coast guard vessels, etc.
Naval aviation:	112 combat aircraft 3 attack sqns with 66 F-104G 1 recce sqn with 27 RF-104G 2 MR sqns with 14 Atlantic, 5 ELINT Altantic 1 SAR Hel sqn with 21 Sea King Mk 41 1 utility sqn with 20 Do-28-2 ac. Trg: 9 TF-104F ASM: AS-20, AS-30, AS-34 Kormoran
On Order:	15 Lockheek S-3A Vikings, 112 Tornado MRCA, 12 Lynx hel., 4 Westwinds and AS-34 Kormoran ASMs.
Major naval bases:	Bremerhaven, Hamburg, Kiel, Wilhelshaven

Source: Defense and Foreign Affairs Handbook, (Washington D.C.: Copley and Associates, S.A., 1982).

APPENDIX N: MINELAYING AREAS OF RESPONSIBILITY WITHIN THE BALTIC APPROACHES



APPENDIX O: RANGE OF THE TOMAHAWK CRUISE MISSILE FROM BALTIC SEA AND BLACK SEA POSITIONS



APPENDIX P: SOVIET BALTIC SEA FLEET DEPLOYMENTS

DEPLOYMENT OF THE SOVIET SUBMARINE FLEET IN THE BALTIC (APPROXIMATE FIGURES)

	1968	1975	1982
Nuclear ballistic-missile submarines (SSBN) (D, Y, & H)	--	--	--
Ballistic-missile submarines (SSB) (G & Z)	--	--	6
Nuclear guided-missile submarines (SSGN) (P, C & E)	--	--	--
Guided-missile submarines (SSG) (J & W)	6	2	4
Nuclear Submarines (SSN) (A, V, E & N)	--	--	--
Submarines (SS) (T, B, F, R, Q, Z & W)	63	74	34
TOTAL	69	76	44

DEPLOYMENT OF SOVIET SURFACE SHIPS IN THE BALTIC
(APPROXIMATE FIGURES)

	1968	1975	1982
CV	--	--	--
CHG	--	--	--
Guided-missile cruisers CG (Kara, Kresta, Kynda)	2	2	--
Light cruisers CL (Sverdlov, Chapaev)	4	5	2
Guided missile destroyers DDG (Kashin, Kilden, Kanin, Krivak, Kotlin (SAM) Krupny)	7	14	4
Destroyers DD (Kotlin, Tallinn, Skory)	15	14	15

SOURCE: Jane's Fighting Ships 1982-1983, (London: Jane's Publishing Co., 1982).

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